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ABSTRACT

In 1988, a series of studies was conducted at Prince George's Community College (PGCC) to assess student outcomes with respect to course pass rates, student retention, the performance of PGCC transfer students at four-year institutions, graduate transfer and employment patterns, employer evaluations of PGCC graduates, scores on licensure and certification exams, and general education and continuing education outcomes. The study involved surveys of PGCC graduates and their employers, and of continuing education students. Study findings included the following: (1) 70% of the students who enrolled for a course at PGCC passed it; (2) 60% of PGCC's fall students returned the following spring; (3) a study of students who entered PGCC in fall 1980 found that, by summer 1988, 12.4% had received an associate degree; (4) half of PGCC's students were attending to prepare for transfer; (5) though PGCC's transfer rate was higher than the statewide average, PGCC transfers had lower grade point averages than transfers from Maryland community colleges in general; (6) most PGCC students who transferred had not earned an associate degree; (7) consistently during the 1980's, 60% of the graduates of PGCC's occupational programs found full-time work related to their major within a year of graduation; (8) PGCC graduates met or exceeded national pass rates on Medical Isotope, Respiratory Care, and Medical Records certification exams, but fell below national averages on Nursing and Radiographers exams; and (9) graduates' self-ratings of their own general education outcomes indicated increases in enjoyment of learning, self-confidence, and clarity of goals. Recommendations for the improvement of student outcomes reports and survey instruments are included. (AYC)

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STUDENT OUTCOMES

PERFORMANCE ACCOUNTABILITY REPORT

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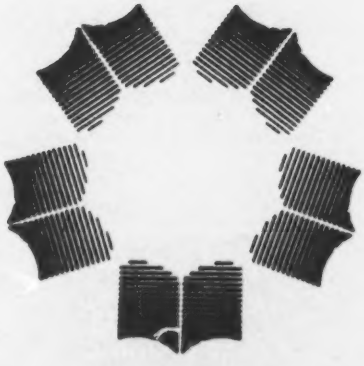

PRINCE GEORGE'S
COMMUNITY COLLEGE
Office of Institutional Research and Analysis

Report to the Board of Trustees BT89-2

November 1988

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STUDENT OUTCOMES PERFORMANCE ACCOUNTABILITY REPORT

Report to the Board of Trustees
Prince George's Community College
Largo, Maryland 20772

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prepared by

Craig A. Clagett
Director
Institutional Research and Analysis

November 1988

PRINCE GEORGE'S COMMUNITY COLLEGE

MISSION STATEMENT

Prince George's Community College is a comprehensive public, two-year collegiate institution, organized and supported for the purpose of providing high-quality, reasonably-priced, postsecondary education to the citizens of Prince George's County, Maryland. The college is committed to educational excellence, broad diversity in its programs and services, and maximum accessibility to the total community. As an open-admissions, community-centered institution, the college seeks to respond to the academic needs of all students, regardless of age or educational background, and to the developmental needs of the community at large.

PRINCE GEORGE'S COMMUNITY COLLEGE

COMMITMENTS

Several commitments underlie all the college's activities and give substance to its mission statement. These commitments include:

Prince George's Community College is committed to offering only the highest quality educational programs.

Prince George's Community College is committed to equality of educational opportunity by offering learning opportunities to students at all levels of ability and background, and by providing testing and advisement to assist students in selecting an appropriate course of study.

By using multiple sites and delivery methods, Prince George's Community College is committed to providing educational programs at times and locations convenient to County residents.

Prince George's Community College is committed to providing a quality education at an affordable cost by striving to maintain an inexpensive pricing structure, by operating in an efficient and cost-effective manner, and by providing financial aid to students who need it.

Prince George's Community College serves a heterogeneous community; therefore, it is committed to providing instructional programs for populations as diverse as the young person exploring educational or career options, the mid-career person needing retraining, and the senior citizen preparing for a new life after a career.

The above educational commitments manifest the college's goal of supporting County economic development through workforce improvement. In addition, Prince George's Community College is committed to providing facilities and other services to assist public and private sector development.

TABLE OF CONTENTS

College mission statement.....i
College commitments.....ii
Table of contents.....iii

Chapter 1 Introduction and Overview.....1
Chapter 2 Course Pass Rates 9
Chapter 3 Student Retention.....12
Chapter 4 Transfer Students at Maryland Colleges...21
Chapter 5 Graduate Transfer.....33
Chapter 6 Graduate Employment.....42
Chapter 7 Employer Evaluations of Graduates.....50
Chapter 8 Licensure and Certification Exams.....55
Chapter 9 General Education Outcomes.....61
Chapter 10 Continuing Education Outcomes.....66
Chapter 11 Conclusions.....74

Appendix Survey questionnaires.....76

Chapter 1

INTRODUCTION AND OVERVIEW

This report represents the first time Prince George's Community College has attempted to collect in one place the diversity of student outcomes information generated by on-going assessment efforts. The report is a response to the national movement for accountability in higher education, and especially the policy guidelines issued by Maryland's coordinating boards. A brief history of the events leading up to this report is included below. The intent is to show the extent to which the college has been committed to evaluating its effectiveness, and to provide a base for further assessment efforts mandated by the new higher education law (S.B. 459). The data included in this report should assist the college in developing the student performance goals that are required in the Performance Accountability Plan to be submitted to the State Board for Community Colleges in April 1989.

Background

Higher education accountability first became an issue in Maryland in 1980, when legislative auditors pointed out that state colleges and universities provided little documentation that the state's financial investment in higher education was achieving desired student learning outcomes. The auditors suggested the possibility of testing students to demonstrate learning. The legislative auditors repeated their concerns each year until, in 1984, the State Board for Higher Education (SBHE) appointed a committee to investigate the testing idea. The committee concluded that basic skills were not the issue, as colleges already had placement tests and remedial education programs in use, but that testing higher level cognitive skills at the end of the sophomore year was a viable option to be explored. The tests could be developed independently at each campus, or a standardized statewide examination could be adopted. The SBHE held discussions with the Educational Testing Service which led to a proposal for a statewide exam. The SBHE recommended a pilot testing project, but the necessary funding transfer was not approved.

In 1986-87, the entire approach to higher education accountability in Maryland was reevaluated. By this time, many other states were involved in assessment activities. Partly due

to fears that a single indicator, such as test results, would become the focus of evaluation and possibly funding decisions, and partly due to the expense and complexity of implementing a meaningful statewide test, the new consensus in Maryland went against testing. It was felt that a multiple indices approach, tied to the specific mission and goals of each individual campus, would be more effective. Deliberations of a new segmental study group led to a March 1987 policy statement by SBHE listing guidelines for institutional assessment. Each campus was to develop an assessment plan to include:

1. A clear statement of those outcomes the institution expects to produce.

2. An explicit assessment of the degree to which the institution is attaining these outcomes. This assessment should:

   a. include the coordination, collection, and use of existing campus measures and indices;

   b. include outcomes indicators which emphasize general education and higher-level cognitive skills and which incorporate value added and/or other appropriate comparative measures;

   c. be based on an approach that would allow the college to analyze results over time.

In addition to providing accountability to the governor, legislature, and public, this process was intended to provide feedback to the college to promote institutional renewal and program improvement.

To provide further direction to the state's colleges and universities, the SBHE staff developed procedures for the implementation of the above policy guidelines. The SBHE implementation procedures were issued in June 1988, and are currently being revised by the new Maryland Higher Education Commission (MHEC). The 1988 legislation that created MHEC (and reorganized postsecondary education in Maryland) included a section mandating each public higher education institution to develop a "performance accountability plan" and to submit annual accountability reports. The written reports, due November 1 of each year, should report on the attainment of the objectives in the institutional accountability plan. The plan, in turn, should reflect the college's mission and goals. The State Board for Community Colleges is requiring each college to submit to SBCC a new, comprehensive mission statement by February 15, 1989. Performance accountability plans, based on the mission

statements, are due at SBCC on April 15, 1989. Both the mission statement and the accountability plan must be adopted by the local Board of Trustees before submission to SBCC.

Assessment at Prince George's Community College

Monitoring and assessing student achievement and program success is nothing new at Prince George's Community College. At the most basic level, faculty evaluate student achievement in the classroom, laboratory, and athletic field. Instructional departments and divisions monitor their courses and programs for effectiveness. The institutional research office conducts numerous studies each year examining student achievement. Many of the systematic analyses are tied in with evaluation efforts coordinated by the State Board. The results of these statewide efforts are summarized in the Performance Profile, Program Data Monitoring System, and Annual Program Evaluation Report issued by SBCC. Many assessment data are gleaned from state reporting systems, including the enrollment information system (EIS), the discipline cost analysis (DCA), and the degree information system (DIS). Statewide surveys, designed by the Maryland Community College Research Group and coordinated by SBCC, include entrants, graduates, employers of graduates, and continuing education students. Additional information on student transfer is collected by the state and shared with individual colleges.

In addition to participating in the statewide evaluation activities, the PGCC institutional research office completes several formal studies each year. Publications issued by the Office of Institutional Research and Analysis over the past three years were distributed by category as follows:

Reports Published by the Office of Institutional Research

	FY86	FY87	FY88
Reports to the Board	5	5	5
Enrollment Analyses	6	6	8
Institutional Factbook	1	1	0
Market Analyses	4	3	6
Planning Briefs	4	3	3
Program Needs Assessments	6	2	0
Program Evaluations	5	2	5
Research Briefs (e.g., retention)	0	10	6
Technical Memoranda	2	2	8
Total	33	34	41

Many of the enrollment analyses and research briefs have addressed student academic performance, examining student course success, term-to-term retention and attrition, length of time to degree completion, and other related areas. The Board of Trustees receives a report annually on the employment and transfer experiences of PGCC's graduates.

In addition to collegewide student performance outcomes, the accountability requirements specifically mandate measures of program effectiveness. Maryland community colleges benefit from the SBCC computerized Program Data Monitoring System (PDMS), which provides in a useful display enrollment, graduation, discipline cost, follow-up survey, and employment demand information for each credit program. The PDMS, based on statewide reporting systems, includes comparative information for other Maryland community colleges with the same program, as well as time trends. The PDMS program includes quantitative criteria which "flag" college programs deviating substantially from state averages or showing dramatic changes. SBCC staff select three or four programs each year for more in-depth, qualitative evaluation. Colleges are asked to respond in writing to a series of questions framed by SBCC about the selected programs. The PGCC institutional research office usually conducts formal evaluations of the SBCC-identified programs, along with others requested by PGCC instructional administrators. The following programs have undergone this formal evaluation process during the past three years:

Associate Degree Nursing (December 1987)
Electronics Engineering Technology (June 1986)
Engineering Transfer (January 1988)
Medical Isotope Technology (April 1987)
Medical Laboratory Technology (February 1986)
Medical Records Technician (December 1987)
Office Administration (April 1986)
Paralegal/Legal Assistant (February 1986)
Radiographer (October 1987)
Respiratory Therapy (September 1987)

In addition, all certificate programs were reviewed in a report issued in June 1987.

In response to the SBHE policy directives issued in 1987, the college recognized the need for a comprehensive look at its extensive assessment activity. President Robert I. Bickford appointed a collegewide Task Force on Institutional Assessment in August, 1987. The task force was charged with making recommendations for the college's response to the SBHE call for an "outcomes-oriented" assessment plan. Dennis S. Bartow, Dean of Instruction, was appointed chairman of the task force. The members consisted of the following positions:

Membership, Task Force on Institutional Assessment

Dean of Instruction (chairman)
Executive Assistant to the President
Associate Dean of Community Services
Associate Dean of Enrollment Management
Associate Dean of Health Technology
Director of Information Systems
Director of Institutional Research and Analysis
Coordinator of Instructional Management Services
Supervisor of Testing
President of the Faculty Senate (English professor)
Professor of Educational Development
Professor of Mathematics
Counselor

At the task force's initial meeting in September, 1987, the director of institutional research made a presentation summarizing existing assessment activities. The following were identified as the major strengths of existing assessment efforts:

1. Existing processes provide a fairly comprehensive review of short-term employment and transfer outcomes.

2. Existing processes have been conducted consistently for nearly a decade, permitting trend analysis.

3. Existing processes include many collaborative statewide data collection efforts, permitting comparative analysis.

The following were identified as the major weaknesses, in light of the SBHE guidelines:

1. Existing processes do not explicitly evaluate general education and higher-level cognitive skills, or the development of critical thinking, clear expression, and responsible citizenship.

2. Existing processes do not incorporate value-added or other comparative measures evaluating student achievement in terms of improvement in the skill and knowledge levels students brought to the college.

After a meeting devoted to a discussion of the pros and cons of testing, the task force formed two committees (both chaired by the director of institutional research) to explore enhancements to the Program Data Monitoring System and to recommend ways to evaluate general education outcomes without testing. Both committees made reports to the full task force in May 1988. Due to the ongoing legislative activity and uncertainty about what

the new commission would require, the only action adopted by the task force was the addition of a general education question to the annual institutional research alumni survey.

Overview of This Report

This report replaces the annual report to the Board of Trustees on the findings of the graduate follow-up survey. Many of the findings of the most recent graduate survey are incorporated in the following chapters. The comprehensive sweep of this report is captured by a brief overview of the balance of its contents:

Chapter 2 Course Pass Rates

Student performance in individual courses is the fundamental learning outcome. Faculty do the assessment. At PGCC, seven out of ten students who enroll in a class pass it.

Chapter 3 Student Retention

Retention and graduation rates are mandated components of college assessment plans and reports. They require careful design and interpretation at community colleges, a majority of whose students may not be seeking a degree. Three-fifths of PGCC fall students return for classes the following spring. A study of fall 1980 entrants found that 12.4 percent had received an A.A. degree from PGCC by the end of the spring 1988 semester. The college now collects better student goal information that should improve research into retention.

Chapter 4 PGCC Transfer Students at Maryland Colleges

Preparation for transfer motivates half of the college's students, the majority of whom will transfer without completing a degree at PGCC. The proportion of PGCC students transferring to Maryland senior institutions is above the statewide average for community colleges. Once at the four-year schools, PGCC transfers do marginally less well than transfers from Maryland community colleges as a group.

Chapter 5 Graduate Transfer

While most PGCC students who transfer do so without graduating from the community college, the experiences of those who do provides valuable feedback about the transfer curriculum.

Feedback from the most recent graduate survey suggests an unusually high rate of transfer, and generally high levels of satisfaction with PGCC's transfer preparation.

Chapter 6 Graduate Employment

Consistently during the 1980s, three-fifths of the graduates from PGCC's occupational programs have found full-time employment in jobs related to their college program within a year of graduation. This full-time, related-employment rate has been higher than the statewide average for all Maryland community colleges. The most recent survey found only 3 percent unemployed and seeking work, and 87 percent rating their PGCC employment training "very good" or "good" on a five-point scale.

Chapter 7 Employer Evaluations of Graduates

Supervisors of PGCC occupational program graduates employed in jobs related to their community college program are surveyed every other year. In the most recent survey, 95 percent of the respondents gave the overall preparation for employment of the college's graduates high ratings.

Chapter 8 Licensure and Certification Examinations

Occupational programs in nursing and allied health are designed to prepare graduates for certification and immediate employment. Pass rates on national certification examinations provide an external means of evaluating the college's success. In the most recent tests, Medical Isotope, Respiratory Care, and Medical Records graduates met or exceeded national pass rates. Graduates in Nursing and Radiographer programs have consistently had pass rates below the comparable state and national averages.

Chapter 9 General Education Outcomes: Graduate Self-assessment

An attempt was made to assess the effectiveness of the college's general education mission by directly asking PGCC graduates to rate their advancement on 11 dimensions collectively comprising the college's definition of general education. Graduates reported increases in their enjoyment of learning, their self confidence, and the clarity of their goals. Moderate improvements in writing and logic skills were indicated. The lowest levels of achievement were reported in the areas of history, cultural understanding, and fine arts appreciation.

Chapter 10 Continuing Education Outcomes

Colleges should be held accountable for their noncredit, as well as credit, programs. The last two years, more individuals have taken noncredit courses from PGCC than credit courses. Continuing enrollment growth suggests that the college's continuing education programs are successfully meeting county needs. Nine in ten respondents to a recent survey of noncredit students would recommend PGCC noncredit courses to others. A total of 43 organizations contracted with the college for specialized training during FY88, another sign that the college's continuing education program is valued by local employers.

Chapter 11 Conclusions

This final chapter concludes the report with brief recommendations for how to improve the student outcomes portions of future accountability reports.

A Caution

This student outcomes report is not a model for the required accountability plans or reports. It is a modest contribution to that effort, an attempt to document in one place a sampling of the assessment findings currently available at Prince George's Community College. It was prepared prior to the official issuance of the MHEC guidelines. Its purpose is to assist PGCC in developing realistic student performance goals.

Chapter 2

COURSE PASS RATES

Introduction

Student performance in individual courses constitutes a fundamental learning outcome. Assessment is the faculty members' responsibility and is reflected in the student's final course grade. Successful course completion is a prerequisite for program progress. An examination of course completion statistics is a useful starting place in the complex process of assessing student performance. This is especially true for community colleges, given the proportion of students who enroll with no intention of completing a program. Recent surveys of entering credit students have found that less than half intend to earn an A.A. degree from PGCC.

Methodology

Course pass rates are calculated from final grade distributions. The pass rate represents the percentage of initial course enrollees receiving passing grades, including D and TP (toward passing) grades. The more failures and withdrawals, the lower the pass rate.

Most Recent Outcomes Indicators

The collegewide course pass rate for fall 1987 was 73 percent, the highest in 12 years. Fall semesters over the 1977-86 period recorded pass rates of 71 or 72 percent. Students as a group did better in occupational courses (78 percent passing) than in general education (73 percent) or remedial studies (64 percent). Pass rates varied greatly by discipline. Nursing students continued to receive the highest proportion passing grades among all 50 disciplines at the college. Ninety-three percent of the students enrolling in a nursing class in fall 1987 passed it. In contrast, only 55 percent of the students taking developmental mathematics passed. Of those disciplines enrolling at least 100 students in fall 1987, eleven had pass rates at least 10 percentage points above the collegewide average:

Disciplines with High Pass Rates, Fall 1987

1.	Nursing	93%
2.	Hospitality Services Management	88
3.	English Literature	86
4.	English as a Foreign Language	85
5.	Business	85
6.	Law Enforcement	85
7.	Health Education	85
8.	Paralegal Studies	84
9.	Early Childhood Education	84
10.	Art	84
11.	Marketing	84

Three disciplines had pass rates more than 10 percentage points below the college average:

Disciplines with Low Pass Rates, Fall 1987

1.	Developmental Mathematics	55%
2.	Mathematics	56
3.	Chemistry	58

These three disciplines have consistently been the most difficult for PGCC students. That a substantial number of students coming to the community college are seriously deficient in mathematical skills and background seems a reasonable inference.

Time Series and Peer College Comparisons

Course pass rates for peer colleges were not readily available. Efforts will be made in the future to obtain comparable information so that the PGCC data can be put into perspective. Analysis of PGCC pass rates over time was possible, as the institutional research office has been doing pass rate studies for over a decade. As reported above, the collegewide course pass rate has been relatively stable, in the low 70 percent range, but with some indication of recent improvement:

Course Pass Rates, 1980-88

Fall	Pass Rate	Spring	Pass Rate
1987	73%	1988	74%
1986	72	1987	74
1985	72	1986	73
1984	71	1985	72
1983	71	1984	70
1982	72	1983	72
1981	72	1982	71
1980	71	1981	70

Pass rates have consistently differed by subject matter, ranging from Nursing with the highest pass rates (over 90 percent every year) to Chemistry and Developmental Mathematics (which have never attained a 60 percent pass rate). Pass rate patterns by division over the past five years have been as follows:

Fall Course Pass Rates by Division

	1983	1984	1985	1986	1987
Health Technology	88%	86%	88%	90%	91%
Physical/Health Education	83	82	86	85	83
Humanities	78	78	79	79	79
Business and Management	74	71	75	76	77
Computer/Engineering Tech.	71	69	71	72	76
Social Sciences	73	74	72	74	75
English Studies	67	67	67	68	71
Science and Mathematics	59	61	61	60	62

Six of the eight credit instructional divisions achieved their highest fall pass rate in five years in 1987.

Summary

On average, seven out of ten students enrolled in a course successfully complete it. Given the college's open admissions policy, this seems a reasonable figure. Until we are able to obtain comparable information from other colleges, it is hard to say more. The college has undertaken many academic support programs to assist those in need. The recent incremental improvement in overall course pass rates may be an indication of their success.

CHAPTER 3

STUDENT RETENTION

Introduction

Student retention term-to-term and persistence through achievement of educational goals are widely used measures of student performance. The Maryland Higher Education Reorganization law specifically mentions graduation and retention rates as required components of institutional accountability reports. Such measures must be applied with care to community colleges, a majority of whose students often have no intention of earning a degree at the community college. For example, a survey of first-time students in fall 1987 found only 46 percent intending to earn the A.A. degree at PGCC. Thirty-five percent planned to transfer to a four-year school without earning an award from the community college. The remaining students were pursuing a certificate or just taking selected courses.

Methodology

Student retention was examined in two ways. First, the percentage of fall students who return for classes the following spring has been calculated for several student groups. This fall-to-spring retention analysis has been done for the past three academic years; highlights of these studies are presented below. The second approach to studying student retention was a longitudinal analysis of students entering college for the first time in fall 1980. The PGCC attendance and degree completion of these fall 1980 entrants was tracked through spring 1988, a total of eight years or 16 regular semesters.

The fall-to-spring retention rates reflect spring returnees as a percentage of the official, end-of-semester fall enrollment, less December graduates. The base for calculating the retention rate is thus all fall students enrolled on official statistical dates, less those who graduated after the fall semester. Fall-to-spring retention is examined for several demographic groups, sorted by variables on the student information system. The limitations of this analysis must be recognized; student decisions to continue or not are the product of a complex interplay among a multitude of factors. Many variables plausibly related to retention--such as academic background, student motivation, peer or family support--were not available for analysis. Multivariate studies in the literature suggest that demographic variables are not significantly related to retention and attrition when academic background is controlled for. Since the college does not require high school transcripts from

applicants, several useful variables (high school rank, grade point average, courses in math and English) were not available for analysis. The results reported below are limited to presenting the retention rates for various student groups. Looking at one or two variables at a time, this method does not lend itself to explanations for retention behavior. It is likely that several of the variables investigated are correlated with each other and that other important variables have been left out. Drawing any conclusions about the contributions of each variable to the student decision to continue would be inappropriate. Multivariate analyses such as multiple regression or discriminant analysis would be required to ascertain the relative contribution of each variable in explaining student retention.

Most Recent Outcomes Indicators

The overall fall 1987-spring 1988 retention rate was 59 percent. Students attending full-time in fall 1987 were more likely to return (78 percent) than part-timers (52 percent). Students with a declared major were more likely to continue their studies than those not pursuing a specific program:

Fall 1987 - Spring 1988 Retention Rates

	Enrolled Fall 87	Returned Spring 88	Retention Rate
Total	12,736	7,514	59%
Full-time	3,506	2,734	78%
Part-time	9,230	4,780	52%
Matriculated	10,636	6,723	63%
Nonmatriculated	2,100	791	38%
Female	7,791	4,619	59%
Male	4,945	2,895	59%
Asian	518	340	66%
Black	5,353	3,049	57%
Hispanic	222	137	62%
Native American	57	31	54%
White	6,586	3,957	60%
Under age 21	4,153	2,905	70%
21 - 25	2,720	1,557	57%
26 - 35	3,319	1,711	52%
36 - 60	2,161	1,101	51%
Over age 60	371	235	63%

(Birthdate missing for 12 students)

Fifty-eight percent of the students attending college for the first time in fall 1987 returned in spring 1988. In contrast, 68 percent of the students who had been continuing their studies at PGCC in fall 1987 were retained another semester in spring 1988. A telephone survey of fall 1987 entrants who did not return in spring 1988 found employment demands the most commonly cited reason (mentioned by 17 percent). Other reasons for not returning in spring 1988 were financial (cited by 13 percent), insufficient time (9 percent), and academic problems (8 percent). Overall, 85 percent of the fall 1987 students who failed to return in spring 1988 said they planned to return to PGCC to resume their studies.

Fall-to-spring retention rates varied by program. Twelve programs (counting program petitioners separately) with at least 25 identified majors in fall 1987 had retention rates more than 10 percentage points above the college average. Five were in health technology, with Nursing registering the highest retention rate collegewide, 86 percent. Unmatriculated students had the lowest fall-to-spring retention, 38 percent. The three programs with the lowest retention rates were all certificates:

Fall 1987 - Spring 1988 Retention Rates by Student Program
Programs with at least 25 Majors in Fall 1987

High Retention Rates	Enrolled Fall 87	Returned	Low Retention Rates	Enrolled Fall 87	Returned
Nursing	232	86%	(Unmatric.)	2,100	38%
Legal Secretary	25	80%	Word Proc. Cert.	25	40%
Hosp. Serv. Mgt.	68	79%	Sm. Bus. Mgt. Ct.	27	44%
Arch. Draft. Cert.	25	76%	Comp. Prog. Cert.	161	47%
Info. Sys. pet.	32	75%			
Physical Ed.	41	73%			
Nursing pet.	267	72%			
Engineering	291	71%			
Radiography pet.	28	71%			
Respiratory Care	28	71%			
Paralegal	217	70%			
Medical Records	54	70%			

Nine of the 12 programs with high retention rates were occupational, rather than transfer oriented. Students not identified with a program had the lowest retention rate. While multivariate analysis would be necessary before attempting to "explain" student retention behavior, the data do suggest that a student's commitment to full-time attendance and degree program matriculation is associated with term-to-term persistence.

Time Series and Peer College Comparisons

Fall-to-spring retention analyses completed over the past three academic years have found rates fairly stable. Full-time, degree-seeking students had above-average retention all three years. Asian students have consistently had higher retention rates than other ethnic groups:

Trends in Fall-to-spring Retention,
by Gender and Race, 1985-88

	F85-S86	F86-S87	F87-S88
Male Students			
Asian	70%	63%	64%
Black	57	57	56
Hispanic	59	60	60
White	61	62	60
Female Students			
Asian	66%	69%	68%
Black	59	58	58
Hispanic	59	54	63
White	60	61	60
Collegewide	60%	60%	59%

Similar fall-to-spring retention analyses were not readily available for PGCC peer colleges. However, fall-to-fall retention patterns were calculated using the enrollment data submitted as part of the routine state reporting process. PGCC's fall-to-fall retention for 1986-87 was slightly higher than that at peer colleges:

Fall 1987 Enrollment of Fall 1986 Community College Students

	Retained	Transferred	Left Md. System
Prince George's	41%	9%	50%
Anne Arundel	40%	7%	52%
Catonsville	39%	9%	52%
Essex	40%	8%	52%
Montgomery (Rockville)	38%	12%	50%

Fall 1980 Longitudinal Student Persistence Study

Graduates of the PGCC Class of 1987 took an average of nearly five years to earn their "two-year" degree. The average graduate's tenure at PGCC has increased over the past decade; graduates in 1977 had taken an average of 3.7 years to earn their award. The share of students attending part-time increased from two-thirds to nearly three-fourths during this time. Nearly a third of the college's students discontinue their studies at some point, only to return to PGCC at a later time. To better understand student attendance patterns, the institutional research office has begun a series of longitudinal student persistence studies, starting with the fall 1980 entering class.

A total of 3,935 students began their college careers at PGCC in fall 1980. Their attendance at PGCC was tracked over an eight-year period covering 16 regular semesters (summer sessions were excluded) ending in spring 1988. The analysis was hampered by a lack of reliable student goal information; while a substantial proportion most likely was not seeking a degree from PGCC, information was not available for identifying degree from non-degree-seeking students. Thus the analysis that follows includes all students, regardless of their goal in attending the college. The graduation rates calculated below must be interpreted carefully, as they include students who had no intention of earning a degree from the college. (The college now collects goal information at registration for all credit students; future persistence studies of current students will not have this limitation.)

Over a quarter of the new students entering PGCC in fall 1980 only attended that one semester. Their failure to return does not necessarily mean they discontinued their college studies, as some may have transferred to another college in spring 1981 or subsequently. Forty-two percent of the fall 1980 entrants continued to enroll at PGCC for two or more terms without interruption. (Once they left PGCC, however, they did not come back.) The remaining 31 percent started at PGCC in fall 1980 and attended at least one more term, but had interruptions in their PGCC attendance. Thus nearly a third exhibited "stop-in, stop-out" behavior:

Student Attendance Patterns, Fall 1980 Entrants

Student Attendance Pattern	Number	Percent
Fall 1980 only	1,064	27%
2 to 16 consecutive terms	1,653	42%
Stop-in/stop-out	1,218	31%
Total fall 1980 entrants	3,935	100%

All of the above reflects student attendance patterns over the eight-year study period. If the analysis was extended past spring 1988, it is possible these proportions could change.

A total of 488 of the fall 1980 entrants had earned an A.A. degree from PGCC by the end of the spring 1988 semester. Thus 12.4 percent of the students had earned a degree over the eight-year period. Most of the graduates (319, or 65 percent) had attended PGCC without interruption. Graduation rates by PGCC attendance pattern were as follows:

A.A. Degree Achievement
Fall 1980 Entrants

PGCC Attendance Pattern	Number of Students	Earned A.A. Degree	Percent Graduating
Fall 1980 only	1,064	0	0%
Fall 80-Spring 81 only	676	1	< 1%
F 80-Spr 81-F 81 only	216	1	< 1%
F 80 thru Spr 82 only	293	75	26%
5 consecutive semesters	137	57	42%
6 or more consecutive	331	185	56%
Stop-in/stop out	1,218	169	14%
Total Fall 1980 entrants	3,935	488	12%

Forty-two percent of those who attended PGCC for 4 or more consecutive semesters (317 of 761) graduated from PGCC with an A.A. degree. The graduation rate for fall 1980 entrants attending PGCC for 6 or more consecutive semesters was 56 percent. Of the 1,218 students whose PGCC careers were interrupted, 169 or 14 percent had received an A.A. degree from PGCC by spring 1988. At least for this cohort, student chances of graduating were better for those able to continue their PGCC studies without interruption.

What other characteristics were associated with A.A. degree attainment? Seventy percent (342) of the graduates had started their PGCC careers in fall 1980 as full-time students. Students starting as full-timers were more than three times as likely to graduate as those starting part-time:

Graduation Rates, Full- and Part-time Students
Entering College in Fall 1980

Status in Fall 80	Number of Students	Earned A.A. Degree	Percent Graduating
Full-time	1,656	342	21%
Part-time	2,279	146	6%
Total	3,935	488	12%

A majority of the graduates completed their program in six or fewer semesters at PGCC. The mode for semesters attended was six:

Number of Semesters Attended at PGCC
PGCC Graduates Beginning College in Fall 1980

Number of Semesters Attended	Number of Graduates	Percent
2	1	< 1%
3	1	< 1%
4	80	16%
5	80	16%
6	105	22%
7	49	10%
8	56	11%
9	25	5%
10	36	7%
11	17	3%
12	16	3%
13	8	2%
14	9	2%
15	4	1%
16	1	< 1%
Total	488	100%

While students starting their college careers full-time in fall 1980 were more likely to graduate than those starting on a part-time basis, less than 20 percent of the 488 graduates had earned their A.A. by the end of 1982. Four-fifths of the graduates took more than two years to earn their "two-year" degrees.

Graduation rates were also calculated by gender and race. Women were more likely to have graduated within the eight-year study period than men. Asian and white students had higher graduation rates than blacks, Hispanics, or native Americans:

Graduation Rates by Gender and Race, Fall 1980 Entrants

	Number of Students	Earned A.A. Degree	Percent Graduating
Female	2,344	329	14%
Male	1,591	159	10%
Asian	121	17	14%
Black	1,451	123	8%
Hispanic	60	4	7%
Nat. American	16	0	0%
White	2,287	344	15%
Total	3,935	488	12%

Nearly one in four of the graduates (113, or 23 percent) had taken at least one developmental studies course. Fall 1980 entrants who had taken developmental courses were somewhat less likely to have graduated than those not taking remedial work:

Graduation Rates by Number of Developmental Courses Taken
Fall 1980 Entrants

Developmental Courses Taken	Number of Students	Earned A.A. Degree	Percent Graduating
None	2,796	375	13%
One	449	53	12%
Two	304	28	9%
Three or more	386	32	8%

Summary

This summary of findings from recent institutional research studies presents a partial picture of student retention at PGCC. The collegewide fall-to-spring retention rate, at 59-60 percent, is difficult to interpret without better information on student goals. Survey data reveal many students who come to the college for only a course or two, perhaps to update job skills or for personal enrichment. Follow-up studies generally find these students satisfied with their community college experience;

their not returning reflects achievement of their educational goals, not any dissatisfaction with the college or their own performance. Furthermore, some attrition is to be expected in an open-admissions college committed to maintenance of academic standards. Fall-to-fall retention rates for PGCC compare favorably with peer colleges.

Many of the same comments apply to the longitudinal student persistence study findings. That only 12.4 percent of the students entering the college in fall 1980 had received an A.A. from PGCC after eight years may largely be explained by student goals. Most students who transfer to four-year schools to earn the baccalaureate do so without completing their community college program. Many other students attend the community college for reasons other than earning a college degree. In a mobile society, in this particularly transient area, people may simply move from the county and continue their education elsewhere. Further study is needed to more fully understand student attendance behavior.

Chapter 4

PGCC TRANSFER STUDENTS AT MARYLAND COLLEGES AND UNIVERSITIES

Introduction

Preparing students for transfer to a four-year college or university remains a key part of the community college mission. Half of the students enrolled in fall 1988 said preparation for transfer was their main reason for attending PGCC. How many students actually transfer from PGCC each year? How well do they do at their senior institutions? Such questions are basic to assessing the achievement of a major purpose of the community college.

Methodology

Tracking student transfers among Maryland colleges and universities is facilitated by the automated data collection systems of the Maryland Higher Education Commission (formerly the State Board for Higher Education). By matching student identification numbers submitted by each campus each fall (on the Enrollment Information Systems tapes), fall-to-fall movements can be traced. For example, we can identify where all the students enrolled at PGCC in fall 1986 were enrolled in fall 1987--with the exception of those who may have transferred to a private or out-of-state school. The analysis only tracks transfers within Maryland's public higher education institutions.

In addition to tracking the number of transferring students, we are interested in how well they do at their senior institutions. The College Park and Baltimore County campuses of the University of Maryland provide information on the academic standing of former community college students. We are able to compare the percent of former PGCC students in good standing at the University with other community college transfers. These data are for all former community college students enrolled at the University the semester the analysis is run, not just those recently transferring.

Most Recent Outcomes Indicators

The most recent transfer data available tracks the fall 1987 attendance of students enrolled at PGCC in fall 1986. The total number of fall 1986 PGCC students in the analysis was 12,300 (this is less than the official enrollment of 12,435 because the

state program randomly assigns students enrolled at more than one campus in the base fall term to a single institution in building the database for analysis). Forty-one percent of the students enrolled at PGCC in fall 1986 were still attending the college in fall 1987. Nine percent (1,057 students) had transferred to another Maryland public college or university. Nearly three-quarters of the transferring students moved to one of the five main campuses of the University of Maryland. The complete breakdown follows:

Fall 1987 Enrollment of Fall 1986 PGCC Students

Still attending PGCC	5,080	41%
Transferred to:		
University of Maryland College Park	434	[illegible]
University of Maryland University College	277	[illegible]
Bowie State University	58	
Towson State University	42	
University of Maryland Baltimore County	41	
Salisbury State University	27	
Frostburg State University	26	
University of Maryland at Baltimore	10	
University of Maryland Eastern Shore	8	
Morgan State University	7	
Saint Mary's College of Maryland	7	
University of Baltimore	3	
Total to Md. public 4-year	940	8%
Montgomery College	36	
Anne Arundel Community College	32	
Charles County Community College	24	
Howard Community College	12	
Community College of Baltimore	7	
Catonsville Community College	4	
Cecil Community College	1	
Frederick Community College	1	
Total to Md. community colleges	117	1%
Total transfers within Maryland public	1,057	9%
Enrolled in graduate or professional school	16	
Left Maryland system of public higher ed.	6,147	50%
Total fall 1986 PGCC students tracked	12,300	100%

Students counted as having left the Maryland system may have graduated, enrolled at a campus other than a Maryland public college or university, or left higher education. Students attending graduate or professional school (a total of 16) were not included in the transfer totals, which reflect only undergraduate enrollment.

Students enrolled full-time at PGCC in fall 1986 were more likely to be continuing their education in Maryland in fall 1987 than those enrolled part-time. Sixty-four percent of the fall 1986 PGCC full-timers were still enrolled in a Maryland public college or university in fall 1987, compared to 44 percent of the part-timers. A majority of the full-timers who transferred enrolled at the University of Maryland College Park. The most popular destination of the part-timers who transferred was the University of Maryland University College campus:

Fall 1987 Enrollment of Fall 1986 PGCC
Full- and Part-time Students

	FULL-TIME		PART-TIME	
	Number	Percent	Number	Percent
Still attending PGCC	1,704	50%	3,376	38%
Transferred to UMCP	284	8%	150	2%
Transferred to UMUC	57	2%	220	3%
Transferred to Bowie	16	<1%	42	<1%
Total transfers to Md. 4-yr	468	14%	472	5%
Transferred to comm. coll.	34	1%	83	1%
Total transfers Md. public	502	15%	555	6%
Enrolled grad/prof school	0		16	
Left Maryland system	1,231	36%	4,916	56%
Total fall 1986 PGCC tracked	3,437	100%	8,863	100%

While a majority of the part-time students at PGCC in fall 1986 were not attending any state public college or university a year later, this does not necessarily mean they have dropped out of higher education. A study of PGCC entrants in fall 1980, analyzing their PGCC attendance patterns over 16 semesters, found nearly a third exhibiting stop-in/stop-out behavior. That a student may not have been enrolled in fall 1987 does not mean he or she has abandoned his or her college career.

Analysis of the 1986-87 transfer data by race found that black students were less likely than whites to have transferred to a four-year college or university in Maryland. Ten percent of the whites, compared to 4 percent of the blacks, had transferred over the 1986-87 period. University College was the most popular transfer school for the black students, with 40 percent of the total transferring choosing UMUC. College Park was most popular with white students, enrolling 45 percent of those transferring. Blacks and whites were equally likely to have continued at the community college:

Fall 1987 Enrollment of Fall 1986 PGCC
Black and White Students

	BLACK		WHITE	
	Number	Percent	Number	Percent
Still attending PGCC	1,965	41%	2,745	42%
Transferred to UMCP	48	1%	330	5%
Transferred to UMUC	82	2%	170	3%
Transferred to Bowie	31	1%	24	<1%
Total transfers to Md. 4-yr	195	4%	648	10%
Transferred to comm. coll.	11	<1%	85	1%
Total transfers Md. public	206	4%	733	11%
Enrolled grad/prof school	5		11	
Left Maryland system	2,618	55%	3,081	47%
Total fall 1986 PGCC tracked	4,794	100%	6,570	100%

The University of Maryland College Park is the most popular transfer school of PGCC students. How well do the former community college students do at College Park? A total of 1,181 former PGCC students were enrolled as undergraduates at UMCP in fall 1987. Eighty-four percent were in good academic standing. This was less than the 86 percent of all Maryland community college transfers at UMCP, and less than the 88 percent of all UMCP undergraduates enrolled in fall 1987. Nine percent of the PGCC transfers had received unsatisfactory performance warnings, and the remaining 7 percent (80 students) were dismissed at semester's end. The mean cumulative grade point average for PGCC transfers was 2.48, below the 2.54 for all Maryland community college transfers at UMCP in fall 1987.

Nearly a fourth of the former PGCC students were new to UMCP in fall 1987. Seventy percent had entered UMCP within the last two years:

Semester of Entry to UMCP of PGCC Transfers
Enrolled at UMCP in Fall 1987

Semester of UMCP Entry	Students	Percent
Fall 1987	271	22.9%
Summer 87	11	0.9
Spring 87	90	7.6
Fall 1986	186	15.8
Summer 86	12	1.0
Spring 86	85	7.2
Fall 1985	166	14.1
Summer 85	8	0.7
Spring 85	52	4.4
Fall 1984	105	8.9
Summer 84	6	0.5
Spring 84	19	1.6
Fall 1983	60	5.1
Summer 83	3	0.3
Spring 83	11	0.9
Fall 1982	30	2.5
Prior to Fall 82	66	5.6
Totals	1,181	100.0%

The former PGCC students had transferred an average of 43 credits to UMCP. Twenty-eight percent had transferred fewer than 30 credits. Forty-three percent had transferred between 30 and 59 credits. The remaining 29 percent had transferred 60 or more credits to UMCP:

Total Credit Hours Transferred to UMCP
PGCC Transfers Enrolled at UMCP in Fall 1987

Credit Hours Transferred	Students	Percent
0 - 14	167	14.1%
15 - 29	170	14.4
30 - 44	221	18.7
45 - 59	285	24.1
60 - 74	267	22.6
75 or more	71	6.0
Totals	1,181	100.0%

Seventy-two percent of the PGCC transfers at UMCP in fall 1987 were enrolled for 12 or more credit hours; the remaining 28 percent were attending UMCP part-time. Nearly a third of the students were taking 15 or more credits. How far along in their programs are the PGCC transfers? The distribution of cumulative credits earned at College Park is suggestive:

Number of Credits Earned at UMCP Since Admission
PGCC Transfers Enrolled at UMCP in Fall 1987

Credits Earned at UMCP	Students	Percent
0 - 14	307	26.0%
15 - 29	169	14.3
30 - 44	209	17.7
45 - 59	163	13.8
60 - 74	154	13.0
75 - 89	79	6.7
90 - 104	65	5.5
105 - 119	25	2.1
120 or more	10	0.9
Totals	1,181	100.0%

The PGCC transfer students were studying a wide variety of subjects at College Park. Social sciences and business programs were most popular:

Curriculum Choices of Former PGCC Students at UMCP
Students Enrolled at UMCP in Fall 1987

Curricular Area	Number	Percent
Social Sciences	237	20.1%
Business and Management	228	19.3
Engineering	117	9.9
Education	104	8.8
English/Journalism	102	8.6
Humanities	85	7.2
Natural Sciences/Mathematics	63	5.3
Criminal Justice	48	4.1
Computer Sciences	41	3.5
General Studies	38	3.2
Health	33	2.8
Agriculture/Horticulture	19	1.6
Other curricula	22	1.9
Undecided	44	3.7
Totals	1,181	100.0%

The specific curricula with the most former PGCC students enrolled in fall 1987 were Pre-Business (70 students), Economics (58), Government and Politics (58), Accounting (52), Psychology (48), English (37), and General Studies (37).

Time Series and Peer College Comparisons

Review of PGCC transfer activity to four-year public colleges and universities in Maryland during the 1980s found 1984-85 to be the high point. A total of 997 students enrolled at PGCC in fall 1984 were enrolled at a state senior college or university in fall 1985. Transfer activity declined to 952 in 1985-86 and 940 in 1986-87. Institutions with reduced PGCC transfers over this period included UMCP, Bowie State, and Towson State. Salisbury State and Frostburg State had gains in PGCC transfers over the 1984-87 period:

PGCC Transfers to Maryland Four-year Colleges and Universities from Fall-to-fall Enrollment Matrices

	80-81	81-82	82-83	83-84	84-85	85-86	86-87
UM--College Park	452	467	458	485	487	457	434
UM--Univ. Coll.	207	237	245	269	279	223	277
Bowie State	72	67	62	60	72	73	58
Towson State	35	30	53	41	63	58	42
UM--Balt. Cnty.	16	20	45	41	31	38	41
Salisbury State	28	26	19	18	16	24	27
Frostburg State	14	19	20	15	14	24	26
UM at Baltimore	21	10	6	5	7	11	10
UM--Eastern Shore	7	5	5	7	10	12	8
Morgan State	7	3	11	7	3	13	7
St. Mary's	11	8	7	7	10	15	7
Univ. of Balt.	4	6	5	4	5	3	3
Coppin State	0	0	0	2	0	1	0
Total to 4-yr	874	898	936	961	997	952	940

SOURCE: Maryland Higher Education Commission. Numbers represent students enrolled at PGCC the first fall who appeared on the enrollment tapes of the four-year school the following fall. Thus 452 students at PGCC in fall 1980 were enrolled at UMCP in fall 1981.

Despite these recent changes, it is clear that UMCP and UMUC remain the primary transfer schools for PGCC students. Over three-fourths of all the transfer students identified by this

analysis during the 1980s transferred to either the College Park or University College campuses of the University of Maryland. About half of all the transfers went to College Park, with slightly over a quarter going to UMUC.

How well have PGCC transfers done at their four-year schools? While available information from the state's senior institutions is currently limited to two campuses of the University of Maryland, we are able to compare the academic standing and mean grade point averages (GPAs) of former PGCC students at College Park and UMBC with transfers from other Maryland community colleges. These data represent the academic records of all former community college students enrolled at the University the semester the analysis was run, not just of those most recently transferring. Information for UMCP and UMBC are presented below, in separate sections.

TRANSFERS TO THE UNIVERSITY OF MARYLAND COLLEGE PARK

Over a thousand former PGCC students have been enrolled at College Park each fall semester during the 1980s. The average credit hours transferred to UMCP by PGCC transfers has been stable at 43. In recent years, 83-84 percent of the PGCC transfers have been in good academic standing at UMCP. The average cumulative grade point average has been 2.5:

PGCC Transfers at the University of Maryland College Park

Fall	Total Students	Percent in Good Standing	Mean Cumulative GPA	Mean Hours Transferred
1987	1,181	84%	2.48	43
1986	1,254	83%	2.48	43
1985	1,263	83%	2.48	44
1984	1,201	84%	2.51	43
1983	1,114	78%	2.45	43
1982	1,004	80%	2.48	45
1981	1,085	79%	2.45	43
1980	1,082	80%	2.59	44

The percentage of PGCC transfers in good standing has been below that for all UMCP undergraduates every year for which we have data. Only once in the past five years has the percentage of PGCC transfers in good standing equalled the average of all Maryland community college transfers at UMCP. While the differences have not been large, they have been consistent:

Percent of Community College Transfers in Good Standing at the University of Maryland College Park, Fall 1983-87 Peer College Comparison

	1983	1984	1985	1986	1987
Prince George's	78% (1114)	84% (1201)	83% (1263)	83% (1254)	84% (1181)
Anne Arundel	80% (352)	86% (386)	83% (405)	84% (382)	86% (348)
Catonsville	79% (174)	85% (158)	89% (151)	83% (148)	83% (132)
Essex	70% (88)	81% (100)	85% (103)	87% (117)	91% (102)
Montgomery	80% (1896)	85% (1980)	86% (2165)	87% (2206)	87% (2170)
All Maryland CC's	79% (4203)	84% (4446)	85% (4703)	85% (4752)	86% (4584)
All UMCP undergrads	83%	86%	87%	88%	88%

SOURCE: State Board for Community Colleges, from data provided by Central Administration, the University of Maryland College Park.

An examination of mean cumulative grade point averages revealed a similar pattern, with PGCC transfers registering an average GPA consistently below that of all Maryland community college transfers to UMCP:

Mean Grade Point Averages of Community College Transfers at the University of Maryland College Park, Fall 1983-87 Peer College Comparison

	1983	1984	1985	1986	1987
Prince George's	2.45	2.51	2.48	2.48	2.48
Anne Arundel	2.55	2.62	2.50	2.49	2.55
Catonsville	2.59	2.47	2.55	2.46	2.49
Essex	2.25	2.60	2.57	2.59	2.63
Montgomery (Rockville)	2.55	2.61	2.58	2.59	2.58
All Maryland CC's	2.50	2.56	2.54	2.54	2.54

The average number of credits transferred to College Park by community college transfers enrolled at UMCP has been stable. The data suggest that PGCC students may transfer slightly earlier than other Maryland community college students, probably explained by the proximity of PGCC to College Park:

Mean Credit Hours Transferred by Community College Transfers at the University of Maryland College Park, Fall 1983-87 Peer College Comparison

	1983	1984	1985	1986	1987
Prince George's	43	43	44	43	43
Anne Arundel	46	46	49	48	47
Catonsville	45	38	40	41	44
Essex	50	51	56	52	55
Montgomery (Rockville)	45	47	47	47	46
All Maryland CC's	44	45	46	45	45

Transfers from PGCC have accounted for over a fourth of all Maryland community college transfers to UMCP over the past five years.

TRANSFERS TO THE UNIVERSITY OF MARYLAND BALTIMORE COUNTY

The University of Maryland Baltimore County campus is the only other campus for which we have comparative academic data on the performance of community college transfers. Less than five percent of PGCC transfer students go to UMBC. Fewer than 100 former PGCC students are enrolled in any given fall semester. Enrollment data for this decade follow:

PGCC Transfers at the University of Maryland Baltimore County

Fall	Total Students	Percent in Good Standing	Mean Cumulative GPA
1987	87	86%	2.57
1986	95	86%	2.65
1985	80	94%	NA
1984	64	94%	NA
1983	55	82%	NA
1982	36	75%	NA
1981	33	79%	NA
1980	19	74%	NA

The percentage of PGCC transfers in good academic standing at UMBC has ranged from 82 to 94 percent over the past five fall terms. PGCC's percentage exceeded the average for all Maryland community college transfers two times, was below it two times, and equalled it once:

Percent of Community College Transfers in Good Standing
at the University of Maryland Baltimore County, Fall 1983-87
Peer College Comparison

	1983	1984	1985	1986	1987
Prince George's	82%	94%	94%	86%	86%
	(55)	(64)	(80)	(95)	(87)
Anne Arundel	88%	84%	95%	89%	89%
	(247)	(250)	(270)	(279)	(273)
Catonsville	82%	82%	91%	89%	89%
	(252)	(295)	(340)	(395)	(423)
Essex	82%	85%	92%	87%	89%
	(98)	(105)	(117)	(156)	(152)
Montgomery	80%	86%	94%	89%	96%
	(135)	(132)	(142)	(174)	(163)
All Maryland CC's	82%	83%	93%	89%	90%

SOURCE: State Board for Community Colleges, from data provided by the UMBC Office of Institutional Research.

Summary

During the 1980s, the number of PGCC students transferring to state four-year colleges and universities has increased 7.5 percent. This is less than half the increase for all Maryland community college transfers:

Community College Transfers to Maryland Four-year Schools

	Fall-to-fall transfer			Percent Change
	80-81	83-84	86-87	81-87
Total PGCC transfers to Md. 4-year colleges	874	961	940	7.5%
Total Md. community college transfers to Md. 4-year	4,907	5,784	5,807	18.3%

During this six-year time period, PGCC credit enrollment decreased 9.5 percent (from 13,747 in fall 1980 to 12,435 in fall 1986), while total Maryland community college enrollment increased 1 percent (from 93,027 to 93,908). Taking these enrollment changes into account, the rate of transfer of PGCC students increased from 6 to nearly 8 percent, while the transfer rate for all Maryland community colleges increased from 5 to 6 percent. Thus, despite the recent decline in the number of PGCC transfers to Maryland four-year schools, the proportion of PGCC students transferring has increased over the decade, and remains above the statewide average for community colleges. However, the available evidence on academic standing and grade point averages suggests that PGCC students do marginally less well than transfers from Maryland community colleges as a whole.

Chapter 5

GRADUATE TRANSFER

Introduction

Half of the students attending the community college for credit say their main goal is to prepare for transfer to a four-year college or university. The bachelor's degree is their goal; many do not plan to earn the A.A. degree. For example, thirty-five percent of the students entering PGCC in fall 1987 said they intended to transfer without earning an award from the community college. Among former PGCC students enrolled at the University of Maryland College Park in fall 1987, less than 30 percent had transferred 60 or more credits. The average number of credits transferred to UMCP by former PGCC students was 43.

Despite the fact that most PGCC students who transfer do so without first completing their community college program, enough graduate first to warrant analysis. The opinions of community college graduates who transfer provide valuable feedback since they have completed the entire PGCC curriculum.

Methodology

Information on the continuing education experiences of PGCC graduates comes primarily from alumni surveys conducted each year by the office of institutional research and analysis. Graduates are surveyed in the spring following their year of graduation. Graduates of even-numbered years are surveyed using a questionnaire designed by the Maryland Community College Research Group and administered statewide under coordination by the State Board for Community Colleges.

Transfer programs at the college are designed to provide university-parallel coursework for transfer to four-year institutions for further study. The programs are articulated with the University of Maryland and other universities. One outcomes measure for evaluating such programs is the percentage of graduates who have transferred within a year of PGCC graduation. This indicator is presented for the college's six transfer programs for each graduating class over the 1980-87 period. For this trend analysis, both full- and part-time transfer students are included. In addition, transfer goal achievement rates (the percentage of transfers of those whose primary reason for attending the community college was to prepare for transfer) are compared with four peer colleges. Finally,

graduate ratings of the quality of their community college preparation for transfer, using a five-point scale (very good, good, fair, poor, very poor), are presented.

Most Recent Outcomes Indicators

The survey of FY87 graduates provides the most recent information on the transfer experiences of PGCC graduates. Slightly less than half of the 521 respondents answering the continuing education question had taken at least one course at another college or university since graduating from PGCC. More had continued on a part-time than full-time basis:

Continuing Education Status of FY87 PGCC Graduates

	Number	Percent
Full-time	116	22%
Part-time	141	27%
Not continuing	264	51%
Total respondents	521	100%

Seventy-eight percent of the students who had transferred were enrolled in programs related to their community college studies. Eighty-eight percent intended to earn a degree at their transfer school; five percent were not sure and seven percent were not degree-seeking. The most popular transfer school was the University of Maryland University College, with the University of Maryland College Park a close second:

Transfer Institutions, FY87 PGCC Graduates

University of Maryland University College	107
University of Maryland College Park	86
Bowie State University	13
Towson State University	7
Capitol College	5
Frostburg State University	4
George Washington University	4
Old Dominion University	2
Salisbury State University	2
St. Mary's College of Maryland	2
University of the District of Columbia	2
Others	23

As expected, graduates of transfer programs were more likely to transfer than graduates of occupational programs:

Continuing Education Status of FY87 PGCC Graduates
by Type of Program Completed at PGCC

	Respondents	Continuing Education Number	Continuing Education Percent
Transfer programs	144	118	82%
Occupational A.A.	353	135	38%
Certificates	24	4	17%
Total	521	257	49%

Even among transfer programs, the proportion of graduates transferring within one year of their community college graduation varied somewhat. Eight of the nine Information Systems and Computer Sciences graduates transferred, yielding the highest transfer rate, 89 percent. General Studies graduates transferred at an unusually high rate, with over 85 percent having taken a class at another college since graduating from PGCC. The lowest rate of transfer among the college's transfer program graduates was found in Teacher Education, 69 percent:

Percent of Transfer Program Graduates Continuing Education
Respondents to FY87 Graduate Survey

	Total Respondents	Continuing Education Full-Time	Continuing Education Part-Time	Continuing Education Total	Continuing Education Percent
Information Systems and Computer Sciences	9	4	4	8	89%
General Studies	62	30	23	53	85%
Engineering	6	4	1	5	83%
Business Administration	41	26	7	33	80%
Arts and Sciences	10	7	1	8	80%
Teacher Education	16	4	7	11	69%
Total Transfer Programs	144	75	43	118	82%

The graduates were asked to rate how well their studies at PGCC prepared them for transfer. Eighty-four percent of the responding graduates said their community college preparation for transfer was "very good" or "good." Graduates continuing their studies in a field related to their PGCC major were more likely to rate their preparation highly:

FY87 Graduate Ratings of PGCC Transfer Preparation

	Total Respondents (N = 252)	Program Related (N = 201)	Program Not Related (N = 51)
Very Good	40%	42%	31%
Good	44%	43%	47%
Fair	13%	12%	13%
Poor	3%	2%	6%
Very Poor	<1%	<1%	0%

Graduates who had attended another college or university since leaving PGCC were asked to rate both colleges on five attributes: teaching faculty, counseling and advisement, academic standards, administrative procedures, and student activities. The ratings were on a five point scale from very good to very poor. For the following analysis, responses were assigned from one to five points (5 points for "very good," 4 points for "good," etc.). The higher the score, the more favorable the rating. Weighted averages for the five attributes for PGCC and the "other college" were as follows:

FY87 Graduate Ratings of College Attributes
PGCC and Other College Attended

	PGCC	Other College
Teaching Faculty	4.48	4.02
Administrative procedures	4.32	3.50
Academic standards	4.21	4.22
Counseling and advisement	4.07	3.57
Student activities	3.84	3.81

PGCC's teaching faculty received the highest average ratings, notably above the average for the other colleges attended. In addition to faculty, PGCC's administrative procedures and counseling and advising services received higher average ratings than the averages for the other colleges attended by PGCC graduates. Academic standards and student activities at PGCC and the other college were given, on average, similar ratings.

Time Series and Peer College Comparisons

A higher percentage of PGCC's graduates transferred to a four-year college or university in 1987 than in any other year during the 1980's. At 49 percent, the overall transfer rate was three percentage points above the previous high of the decade (46 percent for the class of 1985):

Percent of Graduate Respondents Transferred
to Senior Institutions, Classes of 1980-87

	1980	1981	1982	1983	1984	1985	1986	1987
Total respondents	44%	42%	45%	40%	45%	46%	38%	49%
	(584)	(579)	(458)	(415)	(572)	(597)	(484)	(521)
Transfer prog.	66%	67%	65%	67%	72%	71%	67%	82%
	(186)	(177)	(172)	(76)	(166)	(142)	(142)	(144)
Occup. programs	34%	32%	33%	34%	34%	38%	28%	37%
	(398)	(402)	(286)	(339)	(406)	(455)	(342)	(377)

SOURCE: Surveys conducted one year after graduation. Includes A.A. and certificate graduates who transferred to a four-year college or university, full- or part-time. Transfer and occupational program refers to PGCC graduating curricula. Figures in parentheses are total respondents answering the transfer question.

As indicated in the above table, the proportion of graduates from PGCC transfer programs that had transferred within a year of their community college commencement increased substantially in 1987. From only two-thirds the year before, the proportion of transfer program graduates continuing their education jumped to four-fifths. Analysis of the transfer rates by program revealed that much of this increase reflected a larger share of General Studies graduates transferring. (While the college's general studies curriculum serves students unsure of their major, it is also a flexible transfer program allowing students to select coursework suitable for baccalaureate majors with no PGCC analogue.) Eighty-five percent of the FY87 General Studies graduates responding to the alumni survey had taken classes at another college since leaving PGCC. The next highest transfer rate for General Studies graduates during the 1980's was 70 percent. Transfer rates for each of the college's six transfer programs for each year during this decade are shown on the next two pages.

Graduate Respondents Transferred to Senior Institutions Within One Year of PGCC Graduation
Graduating Classes of 1980-84

Program	1980	1981	1982	1983	1984
Arts and Sciences	67% (27)	44% (27)	65% (23)	64% (11)	63% (16)
Business Administration	82% (39)	81% (48)	80% (35)	94% (18)	89% (36)
Engineering	100% (1)	80% (5)	100% (4)	100% (3)	75% (8)
General Studies	58% (103)	67% (85)	53% (81)	59% (39)	70% (80)
Information Systems and Computer Sciences	NA	NA	NA	NA	NA
Teacher Education	75% (16)	50% (12)	64% (28)	50% (8)	50% (24)

Graduate Respondents Transferred to Senior Institutions Within One Year of PGCC Graduation
Graduating Classes of 1985-87

Program	1985	1986	1987
Arts and Sciences	62% (21)	50% (6)	80% (10)
Business Administration	82% (33)	82% (28)	80% (41)
Engineering	67% (6)	100% (4)	83% (6)
General Studies	70% (70)	60% (77)	85% (62)
Information Systems and Computer Sciences	NA	70% (10)	89% (9)
Teacher Education	53% (17)	53% (17)	69% (16)

SOURCE: Institutional Research annual graduate surveys. Percentages reflect total graduates who had transferred to a four-year college or university within a year of PGCC graduation. Figures in parentheses are total respondents.

Much of the analysis presented above examined the experiences of graduates of transfer-oriented programs. For a variety of reasons, students in occupational programs may end up transferring. Nearly two-fifths of the FY87 graduates of occupational degree programs had continued their studies when surveyed a year later. Over half of the FY87 graduates in Marketing Management, Computer Technology, and Accounting had transferred. An alternative to analyzing transfer by PGCC program type is to examine transfer goal achievement: what proportion of the graduates who said their primary goal in attending the community college was to prepare for transfer achieved that goal? The questionnaire used in the statewide surveys of alumni from even-numbered years includes items designed to answer this question. The percentage of graduates achieving their transfer goal for PGCC and four peer colleges is reported for the last four statewide surveys in the following table:

Graduate Transfer Goal Achievement
Peer College Comparison

	1980	1982	1984	1986
Prince George's Comm. College	79%	78%	72%	75%
Anne Arundel Comm. College	81%	76%	79%	73%
Catonsville Comm. College	78%	82%	73%	76%
Essex Community College	75%	82%	84%	79%
Montgomery Comm. College	81%	81%	77%	77%
All Maryland comm. colleges	78%	78%	75%	76%

SOURCE: Surveys conducted one year after graduation. Figures are proportion of graduates who had a goal to prepare for transfer who reported having transferred.

Three-fourths of the PGCC graduates of the Class of 1986 who had transfer as their goal had succeeded in transferring within a year of their PGCC graduation. This was similar to the statewide rate, and an improvement over the rate reported two years earlier. The transfer goal achievement of 72 percent reported by PGCC's graduates of 1984 was the lowest among all five colleges over the study period.

Graduates in the statewide survey of 1986 graduates were also asked to rate their transfer preparation using the same five-point scale described above ("very good" to "very poor"). The percentage of PGCC respondents rating their preparation "very good" or "good" matched the statewide average but was slightly less than that of the four peer colleges:

FY86 Graduate Ratings of Transfer Preparation
Percent Rating Preparation Very Good or Good

Prince George's Community College	78%
Anne Arundel Community College	81%
Catonsville Community College	80%
Essex Community College	79%
Montgomery Community College	79%
All Maryland community colleges	78%

Summary

Information describing the transfer experiences of PGCC graduates complements the analysis of all transfers, including those who transfer without completing their community college program. A review of graduate experiences provides a better means of evaluating the curricula associated with transfer programs at the community college.

The most recent information, for the graduates of 1987, revealed a decade-high rate of transfer. Nearly half of all respondents to the 1987 alumni survey had taken classes at another college or university since their PGCC graduation. Eighty-two percent of those completing transfer-oriented programs at PGCC had transferred within a year of graduating, another high. The University of Maryland's University College and College Park campuses were the destinations for over three-fourths of PGCC's graduate transfers.

PGCC's FY87 graduates rated their community college preparation for transfer highly; 84 percent rated it "very good" or "good" on a five-point scale. When asked to compare five attributes of PGCC against the other college they had attended, PGCC graduates rated the community college's faculty, administrative procedures, and counseling services better. The respondents, on average, reported little differences in academic standards and student activities.

Chapter 6

GRADUATE EMPLOYMENT

Introduction

A quarter of the credit students enrolled at PGCC in the fall take courses to prepare for immediate entry into the workforce or to update job skills for a position currently held. Students with job-related goals are more likely than other students to complete their community college programs; seven of every ten PGCC graduates have completed occupational programs. What happens to these graduates after they leave the community college? How successful are they in finding full-time employment in jobs related to their PGCC programs? How do the graduates rate their community college preparation for employment?

Methodology

Information on the employment experiences of graduates comes primarily from graduate follow-up surveys conducted annually by the office of institutional research and analysis. Graduates are surveyed the April following their year of graduation. Several of the employment questions are repeated unchanged year after year, allowing trend analysis. Graduates of even-numbered years are surveyed using a standardized questionnaire designed by the Maryland Community College Research Group and administered statewide, permitting comparative analysis.

Occupational programs at the community college are intended to prepare graduates for immediate employment in related jobs. One pertinent outcomes indicator for evaluating such programs is the percentage of graduates employed full-time in jobs related to their PGCC program. This indicator is presented for eleven program areas for each graduating class over the 1980-87 period.

Most Recent Outcomes Indicators

The most recent graduate survey was conducted during the spring of 1988. All 933 students receiving an A.A. degree or certificate during fiscal year 1987 were mailed a four-page questionnaire (a copy is in the appendix). Eighty-eight questionnaire packets were returned undeliverable by the postal service. A total of 415 graduates responded to the mail survey. To obtain further responses, and to check for response bias, nonrespondents were called by telephone. A total of 112

additional responses were obtained by telephone interviews, yielding a total of 527 graduate respondents. Thus, the analysis that follows reflects the experiences and opinions of nearly 57 percent of the 933 graduates of the class of 1987 (62 percent of the graduates with valid addresses).

Nine of ten graduates were employed when surveyed, most full-time (30 or more hours per week). Only three percent were unemployed and seeking work. The overall distribution of employment status for the 522 respondents answering the question was as follows:

Employment Status of PGCC Graduates
Class of 1987, Surveyed in Spring 1988

	Respondents	Percent
Employed full-time	406	78%
Employed part-time	64	12
Unemployed, not seeking work	36	7
Unemployed and seeking work	16	3
Totals	522	100%

Seven of every ten of the employed graduates were working in jobs related to their community college program. Seventy-three percent of the full-time workers, and exactly half of the part-time workers, were in related fields. Overall, 63 percent of the respondents were employed full-time in jobs related to their PGCC programs.

Most of the respondents had obtained their jobs prior to or during their attendance at PGCC. Only 45 percent had obtained their current employment position after graduating from the community college. Among full-time workers, 49 percent of those in jobs related to their college program, and 39 percent of those in unrelated jobs, had obtained their positions after graduation. Perhaps most interesting was the number finding employment while they attended the community college. Over a quarter of the employed respondents (129, or 27 percent) obtained their current job while they were enrolled at PGCC.

The graduates were asked how well PGCC had prepared them for employment, using a five-point scale from "very poor" to "very good" preparation. Excluding those respondents who said there was no connection between their PGCC studies and their jobs, 87 percent of the employed graduates rated their community college preparation for employment "very good" or "good." Twelve percent said their PGCC preparation for the world of work was "fair"; one percent gave a "poor" rating. No graduates rated their

preparation "very poor." Respondents employed full-time in jobs related to their PGCC program were even more favorable:

Graduate Ratings of PGCC Preparation for Employment
Respondents in Jobs Connected to PGCC Studies

Preparation rated:	All Employed Respondents (N = 370)	Employed Full-time in Related Job (N = 275)
Very good	36%	40%
Good	51%	51%
Fair	12%	9%
Poor	1%	<1%
Very Poor	0%	0%

(Responses to a sixth alternative, "no connection between PGCC studies and my job," are excluded.)

Responses to graduate surveys are analyzed by individual programs and incorporated in comprehensive program evaluation reports prepared by the research office. Two employment outcomes indicators are reviewed here for programs with at least 10 respondents to the 1987 graduate survey: the percentage of respondents employed full-time in jobs related to their PGCC program, and the percentage of those employed full-time in related jobs who rated their PGCC preparation "very good" or "good." The full-time related-employment rate ranged from 36 percent for Marketing Management to 86 percent for the programs offered by the Allied Health department. Favorable ratings ranged from 78 percent for Electronics Technology to 100 percent for Accounting and Paralegal respondents:

Full-time Related Employment Rates
and Respondent Ratings of PGCC Employment Preparation

Program	Respondents	Employed Full-time in Related Jobs	Preparation Rated Very Good or Good
Business Mgt.	116	59%	92%
Nursing	55	76%	90%
Computer Technology	43	70%	90%
Accounting	30	67%	100%
Allied Health	28	86%	86%
Electronics Tech.	17	53%	78%
Marketing Mgt.	14	36%	80%
Paralegal	13	54%	100%
Office Technology	12	75%	89%
Criminal Justice	12	67%	86%

Time Series and Peer College Comparisons

Graduate follow-up surveys have been administered statewide since the early 1970's. Biennial surveys designed by the Maryland Community College Research Group and coordinated and processed by the State Board for Community Colleges provide graduate employment information for time series and inter-institutional comparative analyses. The college's research office designs and conducts its own graduate surveys in the "off years." Information on the rate of full-time employment of graduates from community college occupational programs is reported for the classes of 1980-87.

Graduates from PGCC occupational programs have been somewhat more successful in obtaining full-time jobs related to their college studies than Maryland community college occupational graduates as a group. Three-fifths of the occupational program graduates from PGCC have found full-time related employment in recent years, above the statewide average:

Graduate Full-time Employment
in Field of Training
Peer College Comparison

	1980	1982	1984	1986
Prince George's Comm. College	60%	55%	60%	60%
Anne Arundel Comm. College	67%	62%	61%	56%
Catonsville Comm. College	59	62	70	63
Essex Community College	59	59	64	63
Montgomery Comm. College	50	42	49	47
All Maryland comm. colleges	56%	53%	58%	55%

SOURCE: Surveys conducted one year after graduation. Includes A.A. and certificate graduates who reported full-time employment in jobs directly or somewhat related to college program.

Full-time related-employment rates were calculated for graduates of PGCC occupational A.A. degree programs for each year since 1980. The year-by-year results are displayed for each program with 10 or more respondents to at least two of the annual surveys. Graduates of nursing, allied health, and office technology curricula have had the most success obtaining full-time jobs related to their PGCC studies, with at least three-fourths of the respondents so employed in most years. Early Childhood Education, Marketing Management, and Paralegal/Legal Assistant graduates have had relatively less success:

Graduate Respondents Employed Full-time
in Jobs Related to PGCC Program
Graduating Classes of 1980-84

Program	1980	1981	1982	1983	1984
Nursing	77% (48)	82% (72)	85% (41)	88% (58)	70% (64)
Allied Health	64% (36)	67% (43)	85% (26)	70% (30)	70% (23)
Office Technology	47% (15)	86% (14)	58% (12)	85% (13)	82% (11)
Accounting	60% (45)	66% (41)	54% (43)	54% (39)	64% (36)
Business Management	58% (85)	68% (93)	58% (84)	61% (69)	62% (79)
Marketing Management	50% (8)	45% (11)	40% (10)	36% (11)	56% (9)
Electronics Technology	65% (23)	57% (7)	67% (15)	63% (16)	67% (18)
Computer Technology	62% (55)	53% (49)	54% (39)	59% (71)	64% (72)
Criminal Justice	65% (46)	36% (33)	59% (34)	43% (28)	50% (26)
Paralegal/Legal Assistant	NA	NA	NA	NA	44% (9)
Child Care/Early Child. Ed.	14% (7)	50% (4)	20% (5)	25% (4)	38% (8)

Graduate Respondents Employed Full-time in Jobs Related to PGCC Program
Graduating Classes of 1985-87

Program	1985	1986	1987
Nursing	82% (62)	75% (52)	76% (55)
Allied Health	79% (28)	83% (18)	86% (28)
Office Technology	75% (16)	71% (17)	75% (12)
Accounting	70% (44)	69% (26)	67% (30)
Business Management	64% (81)	58% (80)	59% (116)
Marketing Management	60% (15)	35% (17)	36% (14)
Electronics Technology	61% (18)	63% (8)	53% (17)
Computer Technology	48% (115)	85% (33)	70% (43)
Criminal Justice	50% (28)	59% (22)	67% (12)
Paralegal/Legal Assistant	55% (22)	50% (12)	54% (13)
Child Care/Early Child. Ed.	20% (10)	45% (11)	75% (4)

SOURCE: Institutional Research annual graduate surveys. Smaller programs with few survey respondents are not shown. Allied Health figures are aggregates summarizing several separate programs. Only A.A. graduates are included. Figures in parentheses are total respondents.

Summary

Graduates of PGCC occupational programs have rated their community college preparation for employment highly. In the most recent survey, 87 percent of the employed graduates rated their PGCC job training "good" or "very good" on a five point scale. Three-fifths of the responding graduates have been employed full-time in jobs related to their college programs. This full-time related-employment rate has been above the statewide average for community college occupational program graduates in all four surveys conducted during the 1980's.

The proportion of graduates securing full-time employment in their field of training varies by program. Though the primary purpose of the college's occupational programs is to prepare students for immediate employment, many decide to continue their education and/or work part-time. When a large share of occupational program students transfer, it may be an indication that a new, transfer-oriented option or program is needed. A recent example is the college's computer program offerings. Due to large numbers of computer students continuing their education, in 1985 the college introduced a new transfer program, Information Systems and Computer Sciences. In subsequent surveys, the percentage of Computer Technology graduates reporting full-time related employment increased dramatically--since the transfer-oriented students had a more appropriate alternative to the occupationally-oriented program. An indicator such as full-time related employment is most meaningful for programs clearly designed for (and enrolling students mostly interested in) immediate employment. Students may also opt for part-time employment, so the more comprehensive individual program evaluations report the employment and continuing education data in complete detail. Continuing education and related part-time employment for FY87 graduates are shown below:

Employment and Continuing Education of FY87 Graduates

	Full-time Related Employment	Part-time Related Employment	Total Continuing Education
Allied Health	86%	7%	14%
Nursing	76%	16%	7%
Office Tech.	75%	8%	25%
Computer Tech.	70%	9%	58%
Accounting	67%	7%	57%
Criminal Justice	67%	0%	46%
Business Mgt.	59%	3%	39%
Paralegal	54%	8%	50%
Electronics	53%	0%	50%
Marketing Mgt.	36%	0%	71%

When part-time workers are included, nine out of ten nursing and allied health program graduates held jobs related to their PGCC programs. Four out of five computer and office technology graduates were employed in related jobs. In the three programs with the lowest rates of full-time related employment, at least half the graduates were continuing their education at senior institutions. Nearly twice as many Marketing Management graduates were continuing their education as had secured full-time related employment, perhaps an indication that the program intent and utilization needs review.

The overall picture from this review of the employment experiences of PGCC occupational program graduates is one of apparent success. Only three percent of the most recent graduating class was unemployed and seeking work, and 87 percent of the employed graduates favorably rated their community college preparation for employment.

Chapter 7

EMPLOYER EVALUATIONS OF GRADUATES

Introduction

A primary purpose of the occupational programs offered by the college is to prepare graduates for immediate employment. In addition to learning from the graduates their employment experiences and their assessment of PGCC's programs in preparing them for employment, feedback from their employers is considered essential for effective evaluation. Those employers who directly supervise the college's graduates are in a good position to help the college evaluate how well its programs prepare students for the real world of work.

Methodology

Employers of occupational program graduates are surveyed every two years as a part of the biennial graduate follow-up surveys conducted jointly by the Maryland Community College Research Group and the Maryland State Board for Community Colleges. Graduates are surveyed the April following their year of graduation; employers of selected graduates are surveyed during May. Findings from the last four employer surveys (supervisors of 1980, 1982, 1984, and 1986 graduates) are reported below.

The employers who responded to these four mail surveys represent only a fraction of the employers of students who attended or graduated from the community college. Since these surveys are the second stage of a graduate follow-up, employers of the many current and former students who did not graduate from the community college are not included. In order to be included in the samples used in these surveys, a graduate must (1) have graduated from an occupational program at the community college, (2) have been employed full-time at the time of the survey, (3) have been employed in a job directly or somewhat related to his or her college program, and (4) have given the researchers permission to contact his or her employer. Thus, employers of graduates from transfer-oriented programs, those working in jobs in fields different from their college program, those working part-time, or those who did not give permission are excluded. These sampling restrictions, designed to ensure a fair evaluation, greatly reduce the number of employers surveyed. Response rates to these surveys have ranged from 32 to 89 percent across the state, which, when combined with the sample

limitations, have yielded considerable variability in the number of employers responding each year. The number of respondents for the 1980, 1982, 1984, and 1986 graduate employer surveys for PGCC and peer colleges were as follows:

Number of Employer Respondents
MCCRG/SBCC Biennial Surveys of Graduate Employers

	1980	1982	1984	1986
Prince George's Comm. College	90	72	104	43
Anne Arundel Comm. College	69	80	52	52
Catonsville Community College	41	77	48	68
Essex Community College	50	79	55	46
Montgomery Comm. College	111	69	49	83
All Maryland comm. colleges	688	743	670	601

The small number of respondents precludes program-level analysis at each college. Analysis of the statewide aggregates has found some small, though consistent, program differences. For example, employers of health services program graduates have rated them somewhat less well prepared than employers rating graduates from other program areas. Since the mix of programs being evaluated varies across colleges and across time at each college (due to differences in program offerings, graduate totals, and response rates), inter-institutional and time series comparisons can be problematic. Some of the fluctuation in aggregate results may reflect changing proportions in program responses. Despite this potential difficulty, these survey data provide valuable feedback from the employer perspective. In addition to the statistical information reported below, the surveys elicit written comments from employers suggesting ways the college's programs can be improved. All comments are forwarded to the appropriate academic administrator, providing input complementary to that provided by the advisory committees associated with each occupational program.

Most Recent Outcomes Indicators

The most recent employer survey was conducted during May 1987. Supervisors of 90 occupational program graduates from the class of 1986 were mailed questionnaires; 43 responded for a response rate of 48 percent. Forty-one of the 43 respondents (95 percent) rated the graduates' overall community college preparation for employment "very good" or "good." The other two gave "fair" ratings. Employers also rated their PGCC graduate employees on seven more specific attributes using the same five-

point scale. The findings were similarly positive; the only area of concern was familiarity with equipment required on the job, with nearly one in five employers rating the graduates fair, poor, or very poor in cases where the question applied. The responses were distributed as follows for the 1986 graduates:

Employer Ratings of PGCC Graduates' Job Preparation
Supervisors of FY86 Graduates (N = 43)

	Very Good	Good	Fair	Poor	Very Poor	No Opinion
Knowledge of specific technical job skills	14	22	5	0	1	1
Familiarity with job equipment	13	18	5	1	1	5
Ability to learn on the job	25	15	3	0	0	0
Ability to solve job-related problems	19	17	7	0	0	0
Oral communications skills	21	14	6	0	0	2
Writing skills	17	15	9	0	1	1
Attitude toward work	25	15	2	0	0	1

Perhaps the "bottom-line" question is whether the employers would hire another PGCC graduate of the same program. Only one employer said no. Acknowledging the limited number of respondents, it appears that the overall picture from this latest survey is one of employer satisfaction with the job performance of PGCC occupational program graduates.

Time Series and Peer College Comparisons

To put these most recent findings into perspective, PGCC data from the 1980, 1982, 1984, and 1986 graduate employer surveys were compared to four peer colleges and the statewide community college averages. PGCC's graduates' overall job preparation was rated higher than the statewide average for all 17 Maryland community colleges in three of the four surveys:

Employer Rating of Graduate Overall Job Preparation
Percent Rated Very Good or Good on Five Point Scale
Peer College Comparison

	1980	1982	1984	1986
Prince George's Comm. College	89%	95%	81%	95%
Anne Arundel Comm. College	78%	96%	96%	94%
Catonsville Community College	90	93	87	91
Essex Community College	88	84	85	86
Montgomery Comm. College	84	91	91	87
All Maryland comm. colleges	87%	89%	89%	90%

The graduates' technical job skills and knowledge have been rated as follows:

Employer Rating of Graduate Technical Job Skills and Knowledge
Percent Rated Very Good or Good on Five Point Scale
Peer College Comparison

	1980	1982	1984	1986
Prince George's Comm. College	83%	93%	81%	84%
Anne Arundel Comm. College	81%	95%	88%	85%
Catonsville Community College	95	89	89	77
Essex Community College	96	82	87	85
Montgomery Comm. College	82	85	94	78
All Maryland comm. colleges	86%	86%	89%	82%

Comparative ratings of work attitude have been more consistent:

Employer Rating of Graduate Work Attitude
Percent Rated Very Good or Good on Five Point Scale
Peer College Comparison

	1980	1982	1984	1986
Prince George's Comm. College	92%	93%	94%	93%
Anne Arundel Comm. College	92%	96%	98%	91%
Catonsville Community College	95	95	89	90
Essex Community College	92	87	84	89
Montgomery Comm. College	88	93	89	86
All Maryland comm. colleges	90%	90%	90%	89%

Summary

Employers of graduates from PGCC occupational programs have reported satisfaction with their employees' community college preparation. In the most recent survey, 95 percent of the employers rated the overall preparation for employment of the college's graduates as very good or good on a five point scale. Ratings on seven specific job performance attributes were generally very positive. Comparisons over time and with peer institutions support the conclusion that the college's occupational programs are doing a good job providing graduates with job preparation meeting the needs of local employers.

Chapter 8

LICENSURE AND CERTIFICATION EXAMINATIONS: PERFORMANCE OF PGCC GRADUATES

Introduction

Occupational programs in nursing and allied health are designed to prepare graduates for certification and immediate employment. National professional organizations provide certifying exams in all five active PGCC health programs: Medical Isotope Technology, Medical Records Technician, Nursing, Radiographer, and Respiratory Care. Results since 1980 of PGCC graduates on each exam are reported below.

Methodology

The organizations that administer certification examinations usually report exam results to the institutions where examinees received their training. The conventional measure used for program evaluation is the pass rate of first-time examinees on the entry level examination. Advanced practitioner examinations, given after employees have work experience, are generally not used for evaluating entry-level training programs since the results may reflect on-the-job training as much as the formal educational program. The results presented on the following pages reflect the examination performance of graduates sitting for the exams the first time. Most of those not passing on their first attempt will succeed in later attempts.

The feedback from the administering organizations often includes detailed score data permitting program faculty to assess curricular strengths and weaknesses. Raw and scaled scores on component subtests are provided for some tests.

Pass rates for PGCC graduates taking the entry-level certification exams for the first time in 1987 are reported below. In the next section, pass rates since 1980 are reported, along with national (Maryland for nursing) rates for comparison purposes.

Most Recent Outcomes Indicators

The pass rates achieved by PGCC graduates taking the certifying examinations for the first time in 1987 were as follows:

Pass Rates of PGCC Graduates on Certification Examinations
First-time Examinees, 1987

Program	Exam	Total Candidates	Number Passed	Pass Rate
Medical Isotope	ARRT-NMT	8	6	75%
Medical Records	ART	8	7	88%
Nursing	NCLEX-RN	110	97	88%
Radiographer	ARRT-Rad.	15	7	47%
Respiratory Care	CRTT	6	6	100%

The percent passing in Respiratory Care, Medical Records, and Medical Isotope met or exceeded national averages. PGCC's Nursing graduates achieved a pass rate five percentage points below the Maryland state average. Less than half of the Radiographer graduates passed their exam, compared to a national average of 87 percent.

Time Series and Peer College Comparisons

In this section, the number of PGCC students taking each exam, the number and percent passing, and the comparable state or national pass rate, are presented for each program for every year since 1980. For Nursing, exam pass rates for four peer colleges are also shown.

Medical Isotope Technology

Graduates of the college's Medical Isotope Technology program are eligible to sit for the Nuclear Medicine Technology examination administered by the American Registry of Radiologic Technologists. The national annual pass rate for first-time examinees has ranged from 59 to 74 percent over the past five years. Graduates of PGCC's program have always done very well on the ARRT-NMT exams, achieving pass rates exceeding the national average every year. As shown in the table on the following page, for six of the past eight years, 100 percent of the PGCC first-time examinees passed the exam.

Pass Rates, ARRT-NMT Examination
First-time Candidates

Year	Total PGCC Candidates	Number Passing	Percent Passing	Nationwide Pass Rate
1987	8	6	75%	66%
1986	2	2	100%	59%
1985	6	5	83%	63%
1984	8	8	100%	74%
1983	11	11	100%	74%
1982	8	8	100%	80%
1981	5	5	100%	81%
1980	7	7	100%	82%

Since 1980, 52 of 55 PGCC graduates (nearly 95 percent) have passed the ARRT-NMT exam on their first try.

Medical Records Technician

Graduates of PGCC's Medical Records Technician program are eligible to sit for examinations to become Accredited Record Technicians. The American Medical Records Association administers the certification exams. Yearly results since 1980 have been as follows:

Pass Rates, Accredited Records Technician Examination
First-time Candidates

Year	Total PGCC Candidates	Number Passing	Percent Passing	Nationwide Pass Rate
1987	8	7	88%	89%
1986	16	9	56%	83%
1985	3	2	67%	94%
1984	12	7	58%	83%
1983	1	0	0%	74%
1982	6	5	83%	71%
1981	8	5	63%	83%
1980	9	8	89%	80%

In 1987, PGCC graduates did well, with 7 of 8 passing, similar to the national average. PGCC graduates had failed to match the national pass rate the four previous years.

Nursing

Graduates are eligible to sit for the National Council Licensure Examination for registered nurse licensure (NCLEX-RN) administered by the Maryland Board of Nursing. The NCLEX-RN is a national test purchased from the National Council of State Boards of Nursing. For program evaluation purposes, the pass rate for candidates taking the exam for the first time is the conventional performance measure. NCLEX-RN pass rates for PGCC graduates and the Maryland statewide averages since 1980 have been as follows:

Pass Rates, NCLEX-RN Nursing Examination
First-time Candidates

Year	Total PGCC Candidates	Number Passing	Percent Passing	Statewide Pass Rate
1987	110	97	88%	93%
1986	106	90	85%	91%
1985	96	83	86%	92%
1984	117	105	90%	90%
1983	103	88	85%	90%
1982	79	62	78%	92%
1981	101	81	80%	90%
1980	104	84	81%	87%

As can be seen, only in 1984 did PGCC graduates match the pass rate for all first-time candidates taking the exam in Maryland. Peer college comparisons over this period were as follows:

Pass Rates, NCLEX-RN, First-time Candidates
Peer College Comparison

Year	Anne Arundel	Catonsville	Essex	Montgomery	PGCC
1987	97% (65)	94% (120)	96% (77)	95% (76)	88% (110)
1986	97% (69)	90% (122)	92% (100)	94% (68)	85% (106)
1985	97% (70)	92% (146)	93% (97)	94% (68)	86% (96)
1984	97% (74)	95% (107)	92% (108)	95% (81)	90% (117)
1983	94% (63)	95% (111)	91% (111)	97% (73)	85% (103)

Pass Rates, NCLEX-RN, First-time Candidates
Peer College Comparison

Year	Anne Arundel	Catonsville	Essex	Montgomery	PGCC
1982	97% (69)	96% (97)	94% (82)	98% (79)	78% (79)
1981	95% (58)	90% (91)	94% (87)	95% (64)	80% (101)
1980	90% (58)	90% (93)	88% (91)	97% (74)	81% (104)

As shown in the above table, not once in the eight years did the pass rate of PGCC graduates equal the pass rates of any of the four peer colleges.

Radiographer

Graduates of the Radiographer program usually take the July Radiography examinations given by the American Registry of Radiologic Technologists. Yearly results for new candidates taking the July exams have been as follows:

Pass Rates, ARRT-Radiography Examination
First-time Candidates

Year	Total PGCC Candidates	Number Passing	Percent Passing	Nationwide Pass Rate
1987	15	7	47%	87%
1986	7	4	57%	88%
1985	9	2	22%	87%
1984	8	6	75%	88%
1983	8	5	63%	87%
1982	18	14	78%	88%
1981	13	5	38%	90%

Although PGCC graduates have had difficulty with the ARRT-Radiography exams on the first attempt, most become certified on subsequent attempts. Faculty follow-up indicates that only 2 of the 65 graduates since 1982 have not obtained certification.

Respiratory Care

Graduates are eligible to sit for the entry-level licensure examination to qualify to be Certified Respiratory Therapy Technicians. Performance of first-time candidates on the CRTT exam is conventionally used for program evaluation purposes. Pass rates since 1980 have been as follows:

Pass Rates, CRTT Examination
First-time Candidates

Year	Total PGCC Candidates	Number Passing	Percent Passing	Nationwide Pass Rate
1987	6	6	100%	65%
1986	10	8	80%	65%
1985	16	15	94%	76%
1984	12	10	83%	71%
1983	21	17	81%	74%
1982	14	10	71%	75%
1981	6	5	83%	78%
1980	7	7	100%	79%

PGCC Respiratory Care graduates achieved pass rates above the national rate in every year but 1982.

Summary

Performance on certification examinations is only one measure of a program's success. Student success in employment and further education are other indicators, documented elsewhere. Certification exam performance is one of the more meaningful assessment tools, as preparation for the examinations and certification is an explicit goal of all five programs considered.

Medical Isotope and Respiratory Care have consistently achieved pass rates above national averages. Medical Records improved in 1987, after four years below the national rate. The Nursing and Radiographer programs have consistently had pass rates on certification exams below the comparable state or national averages.

Chapter 9

GENERAL EDUCATION OUTCOMES: GRADUATE SELF-ASSESSMENT

Introduction

Prince George's Community College recognizes its obligation to provide all degree-seeking students with the concepts, values, methods, and skills that make up general education. In its Report to the President of July 1983, the college's Task Force on General Education Requirements defined general education as follows:

> General education is a common body of knowledge, skills, and values to which all Associate degree-seeking students, both part-time and full-time, should be exposed, and for which Prince George's Community College may determine certain levels of competency. This common learning experience should enable students to think and communicate intelligently and critically, thereby equipping them for rational decision-making in an increasingly complex society.

The report went on to list specific skills (under the headings writing, reading, mathematical, observation, learning, speaking, listening, interpersonal communication, and reasoning), values (intellectual and social), and categories of knowledge (political/social, cultural, economic, physical world and technology) that together constitute general education. The college attempts to ensure that all students meet the goals of general education through its basic education requirements. Until recently, all degree-seeking students were required to complete 17-18 hours distributed in English (6), humanities (3), mathematics or science (3-4), social science (3), and physical education (2). In January, 1987, the Maryland State Board for Higher Education adopted a revision of the general education requirements contained in its "Minimum Requirements for Associate Degree-granting Institutions." In order to comply with the Board's mandate that all two-year colleges require 20 credit hours of arts and sciences core courses, Prince George's Community College's Task Force on General Education recommended a revision to the college's general education requirements. The recommendation was approved by the Dean of Instruction, the Faculty Senate, the President, and the Board of Trustees. Effective fall 1989, each student must complete at least 20 general education credits to earn the Associate in Arts degree, distributed in English composition (minimum 6 hours), humanities

(3), social sciences (3), mathematics (3-4), and science (3-4). To ensure a total of 20 hours, students may take additional hours in one of the above areas or a sophomore-level literature course.

A review of existing evaluation mechanisms conducted by the college's Task Force on Institutional Assessment during February 1988 concluded that no process was in place to adequately assess student achievement of the college's general education goals. Many colleges around the country have reached similar conclusions, and a few have initiated implementation of testing programs as one means of addressing the need for explicit measures of the "value-added" by general education. After considerable discussion, the task force decided against recommending standardized testing. Other elaborate processes such as individual portfolio assessment and personal graduate interviews by outside evaluators (explored by a few small, primarily liberal arts colleges) were dismissed as too expensive and unwieldy. Another alternative was student self-reporting. The task force adopted a recommendation that a general education question be added to the graduate surveys conducted annually by the institutional research office.

Methodology

The institutional research office constructed a question asking graduates to rate the extent to which attendance at the college helped them accomplish 11 general education goals, using a five-point scale from "not at all" to "a great deal." The question was included in the survey of FY87 graduates administered during the spring of 1988. The same question was adopted by the Maryland Community College Research Group for inclusion in its May 1988 statewide survey of students entering Maryland community colleges in Fall 1984. The wording of the 11 items is shown below, with the findings.

Most Recent Outcomes Indicators

A total of 527 graduates from the Class of 1987 responded to the spring 1988 survey conducted by the institutional research office. Deducting 79 questionnaire packets returned as undeliverable by the postal service, and including graduates reached in a telephone follow-up of nonrespondents with good addresses, the survey achieved an adjusted response rate of 62 percent. The number of responses to each individual item in the general education question ranged from a low of 515 to a high of 525. The response distribution for each item in the general education question was a follows:

Responses to General Education Question
Survey of FY87 PGCC Graduates

To what extent did your attendance at PGCC help you accomplish the following?

	A Great Deal		A Fair Amount		Not at All
	5	4	3	2	1
Improve your reading comprehension	17%	32%	31%	10%	10%
Improve your writing	20	31	34	7	8
Increase your ability to use mathematics	16	31	30	12	11
Improve your ability to understand the logic and merits of arguments	19	30	31	10	9
Improve your understanding of science and technology	21	28	31	8	12
Increase your attentiveness to news and world events	17	26	31	12	13
Increase your knowledge of other cultures and and periods of history	12	22	32	16	18
Expand or enhance your appreciation of art, music, or literature	14	18	24	12	31
Clarify your educational or career goals	35	32	22	6	5
Enhance your self confidence	37	33	22	5	3
Increase your enjoyment of learning	43	32	18	4	3

SOURCE: Institutional Research graduate survey. The percentages are based on the number of responses to each item, which ranged from 515 to 525.

Based on the response distributions presented on the previous page, the college appears to have been most successful in instilling the joy of learning in its graduates, and enhancing their self confidence. The college was also effective in helping students clarify their educational or career goals. The students reported moderate improvement in writing, reading comprehension, and understanding arguments and science. The curriculum was apparently less successful in increasing graduates' knowledge of other cultures and history, or in developing an appreciation of the fine arts.

The same general education question was asked of students who first entered the college in the fall of 1984. Only 14 percent of the fall 1984 entrants had earned an A.A. from PGCC as of the end of the spring 1988 semester, so the responses for the entrant group mostly reflect non-graduates. Three-fifths of the respondents had earned fewer than 26 credits at the college. If the general education requirements of the A.A. degree are effective, the graduates should report higher achievement of general education goals than the entrants. This was the case for all 11 attributes:

Student Self-reported Ratings of General Education
Weighted Averages, Five-Point Scale

	FY87 Graduates (N = 527)	Fall 1984 Entrants (N = 887)
Enjoyment of learning	4.08	3.60
Self confidence	3.97	3.44
Goal clarification	3.87	3.28
Writing improvement	3.49	3.01
Logic of arguments	3.40	2.67
Science understanding	3.39	2.57
Reading comprehension	3.37	2.78
Mathematics ability	3.29	2.77
Attentiveness to news	3.22	2.62
Knowledge of other cultures	2.95	2.43
Appreciation of fine arts	2.72	2.38

SOURCE: Institutional research surveys. Missing cases excluded.

While not a rigorous "value-added" indicator, based as it was on the self-reports of different student groups, this finding is suggestive. Without exception, it turned out the way one would expect if the general education requirements were effective.

Summary

An attempt was made to assess the effectiveness of the college's general education requirements by directly asking PGCC students to rate their advancement on 11 dimensions collectively comprising the college's definition of general education. The graduates from the Class of 1987 indicated their attendance at the community college had increased their enjoyment of learning, enhanced their self confidence, and clarified their educational and career goals. They reported moderate improvements in writing and reading abilities, and in understanding the logic of arguments. The graduates reported the lowest levels of achievement for general education goals in the humanities.

The same general education question was asked in a survey of students first enrolling at the college in the fall of 1984. Without exception, the ratings of general education attainment were lower for the entrants than for the 1987 graduates. As the graduates had to have completed the general education requirements, while most of the entrants had not, this finding suggests that the general education requirements were having some effect.

Chapter 10

CONTINUING EDUCATION OUTCOMES

Introduction

Nationally, the focus of recent accountability efforts has been almost exclusively on credit programs. Few of the conferences or journal articles have examined the outcomes of noncredit, continuing education courses. Yet continuing education is growing, both in absolute terms and proportionately, at many campuses around the country. Colleges should be held accountable for the outcomes of their noncredit, as well as credit, programs.

In both FY87 and FY88, more PGCC students enrolled in noncredit courses than credit courses. A total of 18,869 different individuals took only noncredit classes at PGCC during fiscal year 1988, compared to 17,599 enrolling exclusively in credit classes. An additional 1,337 people took both credit and noncredit courses at PGCC during the year:

Total PGCC Unduplicated Headcount, FY87-88

	FY87	FY88
Noncredit classes only	17,852	18,869
Credit classes only	17,527	17,599
Both credit and noncredit	1,167	1,337
Total student headcount	36,546	37,805

While more students were served in a noncredit than credit capacity, credit operations still accounted for the majority of instructional activity, as measured by instructional contact hours or full-time equivalents (FTEs). During FY88 the college generated 9,168 total FTEs, of which 2,689.5 or 29 percent were from noncredit operations.

Several measures of continuing education student outcomes are presented below; first, however, is a brief review of statewide efforts to assess continuing education outcomes.

Several Maryland community colleges (including PGCC) and the State Board for Community Colleges have been concerned with measuring continuing education outcomes from the beginning of their concerted evaluation efforts. The Maryland Community College Evaluation System, approved by SBCC in March, 1979, included biennial reviews of continuing education courses and surveys of noncredit students among its components. Five months earlier, in October 1978, state community colleges and SBCC staff conducted the first statewide survey of continuing education students. Noncredit students were surveyed statewide again three years later. While much was learned from these early efforts, no attempt was made during these years to develop a comprehensive accountability system for continuing education.

The move to create a systematic and outcomes-oriented continuing education evaluation process began in earnest in the fall of 1986. The State Board appointed an advisory committee of continuing education deans and institutional research directors from the community colleges to help identify outcomes measures, improve data collection, and develop reporting mechanisms for continuing education. The advisory committee first met with the SBCC staff in September, 1986, and over the course of two years guided the implementation of the evaluation system described in its report Continuing Education Outcomes, published by SBCC in September 1988.

Methodology

Continuing education outcomes were analyzed under four headings: apprenticeship programs, business and industry training, licensure/certification, and student enrollment, including in open-enrollment courses. Students in work-related courses, in non-vocational ("general") courses, and senior citizens were analyzed separately. (Only some of the findings are highlighted here; in most cases, data are shown for all students under age 60.) Information sources included state reporting systems, interviews with apprenticeship and licensure agencies, college records, and a statewide student survey. Research questions guiding the survey design concerned course completion, goal achievement, and ratings of instructional quality and administrative procedures. The survey population consisted of all eligible students enrolled in state-funded continuing education courses conducted during FY87. A stratified random sample was selected from the end-of-year file by SBCC. The sample included 10 percent of the (unduplicated) students enrolled in remedial, community development, consumer, health care/science, general interest, general education, and family life courses. The sample also included 20 percent of the students enrolled in work-related courses (vocational/technical, licensure/certification, apprenticeship, and business/industry training) to ensure sufficient respondents in both types of

courses at every college. Responses were weighted during analysis to allow generalizations to all registrants in state-funded courses.

Questionnaires were mailed on November 30, 1987 to 2,550 students who had attended PGCC noncredit courses during FY87. The postal service returned 195 as undeliverable. By the time analysis commenced, 1,017 students had responded, for an adjusted response rate (excluding the undeliverables) of 43 percent. The comparable statewide response rate was 40 percent.

Most Recent Outcomes Indicators

The most recent outcomes information for noncredit students comes from the statewide study, particularly the survey of FY87 students. Thirty-six percent of the PGCC respondents were employed full-time at the time of the survey. Six percent were working part-time; 7 percent were unemployed. Forty-five percent of the respondents were retired. The remaining respondents reported "other" employment situations. Twenty-nine percent of the PGCC noncredit students who responded to the survey had bachelors' degrees or above; 11 percent had graduate degrees.

Ninety-one percent of PGCC's responding noncredit students said they had satisfactorily completed all course requirements. Students were asked what their primary goal was in attending the noncredit class at PGCC, and to what extent they had achieved their goal. The percentage reporting they had "completely" or "mostly" achieved their goal, the top two ratings on a five-point scale, were as follows for each goal category:

Student Goal Achievement
Percent Saying Goal "Completely" or "Mostly" Achieved
All Respondents, 1987 Continuing Education Survey

Student Goal in Taking Noncredit Class	PGCC	Statewide
Prepare for entry into first career	71%	71%
Prepare for entry into different career	68%	62%
Update skills for current job	67%	69%
Self-enrichment	75%	76%
Other goals	80%	74%

Further findings from the student survey are reported below under peer college comparisons.

PGCC supports county economic development by providing extensive workforce enhancement activities through its continuing education and professional development programs. The following organizations met their specific training needs in FY88 through negotiated contracts with PGCC:

Organizations Served by PGCC Contract Training, FY88

Adventist Health Systems
Andrews Air Force Base
Arundel Asphalt Company
Asbestos Workers Union #24
Associated Builders and Contractors
Beretta USA, Inc.
Capital Centre
Computer Science Corporation
Craftmasters, Inc.
Engineering Review Programs of Greater Washington
Federal Tower Credit Union
Federal Savings and Loan Insurance Corporation
General Electric
Goddard Space Flight Center
Hechinger, Inc.
Hughes Technical Services
Independent Electrical Contractors, Inc.
Ironworkers Joint Apprentice/Training Committee
John Hanson Savings Bank
Kennedy Institute
Maryland National Capital Park and Planning Commission
Maryland State Department of Health and Mental Hygiene
METRO Transit Police
National Association of Independent Fee Appraisers
Operating Engineers Local 77 Training School
Ottenberg Bakery
Painters/Decorators District Council 51
Pizza Movers
Prince George's County
- Department of Aging
- Department of Mental Health
- Department of Social Services
- Firefighters Training Facility
- Office of Personnel Training
- Police Training Academy
- Public School System
- Housing and Community Development

Private Industry Council
Queen Anne School
Sheetmetal Training School
U.S. Department of Agriculture
Washington Building and Trades Council
Washington Joint Electrical Apprenticeship Training Council
Washington Suburban Sanitary Commission

In addition to the contract training listed above, many county businesses met their employee training needs through the college's open enrollment courses. During FY88, the college identified 26 private businesses and 25 government agencies that utilized open enrollment courses for their employee professional development needs. The total number of organizations using open enrollment courses in this way was undoubtedly larger, as employees may attend open enrollment courses with the encouragement and/or financial assistance of their employers without the college being notified.

Time Series and Peer College Comparisons

Data from the 1978 and 1981 surveys of continuing education students were judged unacceptable for comparative trend analysis. Both the sampling method and the administration of the earlier surveys were flawed. Thus, time series analysis was restricted to a review of enrollment data. If growth is a sign of health, the college's noncredit program has been healthy during the 1980s:

PGCC Continuing Education
State-funded Full-time Equivalent Enrollment

Fiscal Year	Informal Courses	Contract Training	Special Populations	Total FTEs
1988	521.5	851.1	1,316.9	2,689.5
1987	458.4	820.5	1,275.3	2,554.2
1986	524.3	697.2	993.1	2,214.6
1985	509.8	607.4	811.1	1,928.3
1984	486.1	208.4	699.1	1,393.7
1983	442.2	79.9	520.7	1,042.8
1982	353.8	118.1	367.9	839.8
1981	381.9	131.7	218.4	732.0

Noncredit FTEs grew 267 percent over the 1981-88 period. Growth was strongest in special populations, which experienced a five-fold increase in FTEs over the period. Senior citizens accounted for 94 percent of last year's special population total, generating 1,236 FTEs in FY88.

Because the 1987 survey was a statewide effort, data were available for peer colleges. The comparisons presented below focus on findings for all students under age 60; the proportion of students accounted for by senior citizens varied across colleges and made comparisons of total respondents somewhat problematic to interpret.

A basic evaluative question concerning noncredit courses was class attendance; with no credit to be lost, would students make the effort to attend all class sessions? Eighty-two percent of PGCC's respondents said they had attended all class sessions, above the statewide average:

Course Attendance, Students Under Age 60

	Sessions Attended			
	None	One	Some	All
Prince George's	3%	3%	13%	82%
Anne Arundel	3%	2%	14%	81%
Catonsville	2%	2%	17%	80%
Essex	<1%	2%	11%	87%
Montgomery	3%	3%	17%	77%
All Md. comm. colleges	2%	3%	17%	78%

Three-fifths of the students under age 60 were taking PGCC noncredit courses for job-related reasons: 34 percent to update skills for currently-held jobs, 18 percent to prepare for a change in career, and 8 percent to prepare for entry into a first career. Thirty percent of the students under age 60 were enrolled for self-enrichment reasons, and the remaining 10 percent had other assorted goals. How successful were the students in meeting their goals? Two-thirds indicated they had "completely" or" mostly" achieved their goal in enrolling:

Extent to Which Course Met Student Goal
Students Under Age 60

	Completely	Mostly	Fairly Well	A Little	Not at All
Prince George's	36%	30%	20%	11%	3%
Anne Arundel	36%	31%	22%	8%	3%
Catonsville	36%	30%	23%	9%	2%
Essex	38%	33%	22%	6%	2%
Montgomery	33%	25%	28%	11%	3%
All Md. comm. coll.	36%	31%	21%	9%	3%

While the primary purpose of this analysis is to examine student learning outcomes, it is part of the larger institutional assessment effort. Student evaluations of the college's

noncredit instruction and administration can help the college assess its service to students. Eighty-five percent of PGCC's noncredit students rated their instruction "very good" or "good." Ratings for PGCC and four peer colleges were as follows:

Ratings of Quality of Noncredit Instruction
Students Under Age 60

	Very Good	Good	Fair	Poor	Very Poor
Prince George's	46%	39%	11%	3%	1%
Anne Arundel	51%	36%	10%	2%	1%
Catonsville	53%	34%	11%	2%	0%
Essex	45%	44%	9%	2%	0%
Montgomery	46%	37%	14%	3%	1%
All Md. comm. coll.	49%	36%	11%	3%	1%

Similarly, the registration and payment procedures for noncredit courses were favorably rated:

Ratings of Quality of Noncredit Program Administration
Students Under Age 60

	Very Good	Good	Fair	Poor	Very Poor
Prince George's	45%	44%	9%	1%	1%
Anne Arundel	53%	40%	5%	1%	1%
Catonsville	48%	39%	10%	2%	1%
Essex	47%	45%	8%	1%	0%
Montgomery	43%	46%	9%	1%	1%
All Md. comm. coll.	49%	42%	8%	1%	1%

Summary

Institutional accountability reports must include assessment of continuing education student outcomes. Continuing education is an important and growing part of the community college's service to the county. Programs offered through the college's Center for Business and Industry Training, as well as open enrollment courses, provide an effective means for local employers to improve the skills and performance of their workforces at a reasonable cost.

This review of initial efforts to systematically evaluate continuing education outcomes found evidence of effective programs and courses. A wide variety of students with differing goals in enrolling in a noncredit course at the college reported satisfaction with their PGCC experiences. The proportions saying they had achieved their enrollment goals were similar to the reported statewide results. Survey respondents rated the quality of both the instruction and the administration of PGCC noncredit courses favorably. When asked if they would recommend the course to others with goals similar to their own, 91 percent of the PGCC students said yes, above the statewide average of 89 percent.

The success of the college's continuing education program in supporting county economic development is suggested by the continued growth in business training courses. In addition to employee enrollment in open enrollment courses, contract training activity has increased each of the past five years. The listing of 43 organizations served by contract training arrangements during FY88 suggests the diversity of needs the college is able to meet through its noncredit programming.

Chapter 11

CONCLUSIONS

The evidence accumulated in this report suggests that Prince George's Community College has been successful in supporting and promoting student achievement. The vast majority of students have accomplished their purposes in attending the college, whether they came to prepare for transfer to a senior institution, to prepare for a new career, to upgrade job skills, for personal enrichment, or for other reasons. In most cases, comparisons with statewide averages and peer college indicators reinforce this conclusion.

Three findings warrant further study. First, the performance of PGCC transfers at four-year colleges and universities needs careful monitoring. The available data, largely limited to UMCP, suggest PGCC transfers may not do as well as a group as transfers from other state community colleges. Second, the below-average performance of nursing and radiography program graduates on certification examinations needs further study. Finally, the retention of black students continues to be a major institutional challenge. Studies completed to date have reported black graduation and transfer rates considerably below those of other ethnic and racial groups.

This compilation of student outcomes has identified several areas where improvement is needed in data collection and analysis. Specific recommendations are as follows:

1. The community college needs better information from the four-year colleges and universities on the performance of its transfer students. Data are needed from all the senior institutions in the state, not just College Park. Data at the individual student record level are needed to supplement aggregate information. The college needs to be able to link performance at the senior institution with variables on its student information system. To protect record confidentiality, files could be merged and the student number used to link the files immediately purged. If release of these individual-level data is still problematic, perhaps the analysis could be done at the state agency and only analytical results reported back to the college.

2. Retention and graduation analyses must be linked to student goals. To calculate graduation rates on a base that includes students with no degree goal borders on the meaningless. Recent surveys at PGCC indicate that a majority of the credit students do not intend to earn a degree from PGCC. The college is now collecting goal data systematically, which will improve future studies.

3. The college needs to expand the data it collects from entering students to include indicators of academic background and preparedness. Consideration should be given to requiring the high school transcript and entering selected data from it into the student information system, so future student outcomes analyses can include pertinent academic background variables.

4. Efforts to systematically gather and analyze continuing education outcomes information should continue. The college should explore means to identify employer-sponsored enrollment in open enrollment courses, to further document its service to the business community.

Other recommendations can be expected to surface as PGCC and other Maryland colleges respond to the new state requirements. This report will have served its purpose if it contributes to this dialogue and promotes a useful accountability process.

APPENDIX

Survey Questionnaires

Class of 1987 Graduate Survey

Maryland Community Colleges Employer Questionnaire

Survey of Continuing Education Students

PRINCE GEORGE'S COMMUNITY COLLEGE
Office of Institutional Research and Analysis

CLASS OF 1987 GRADUATE SURVEY

Specific directions are given for completing some of the questions in this questionnaire. Where no directions are given, please circle the number of the most appropriate response. Continue to the next question unless specific directions are given to go elsewhere. This form should take less than ten minutes to complete, and all answers will be strictly confidential. Thank you.

PART I - EMPLOYMENT

A. What is your current employment status:

1. *Employed full-time (30 or more hours per week)*
2. *Employed part-time*
3. *Unemployed and seeking a job – GO TO PART II*
4. *Unemployed and not seeking a job – GO TO PART II*

B. Is your job related to the program you completed at PGCC?

1. *Yes*
2. *No*

C. What is the title of your current position?

_____

D. What is your employer's name and address?

_____

_____

_____

NOTE: The college sometimes contacts employers for further evaluation of its programs. If you would prefer that we *not* contact your employer, check here: ☐

E. When did you obtain your job?

1. *Before attending PGCC*
2. *While attending PGCC*
3. *After graduating from PGCC*

F. Overall, how well did PGCC prepare you for employment?

1. *Very good preparation*
2. *Good preparation*
3. *Fair preparation*
4. *Poor preparation*
5. *Very poor preparation*
6. *No connection between PGCC studies and my job*

PART II - CONTINUING EDUCATION

G. Have you taken courses at another college since graduating from PGCC?

1. *Yes, full-time (12 or more hours per term)*
2. *Yes, part-time*
3. *No—GO TO PART III*

H. Was your program of study related to your PGCC major?

1. *Yes*
2. *No*

I. What is the name and location of the school you have most recently attended?

1. *University of Maryland, College Park*
2. *University of Maryland, University College*
3. *Other (please specify name and location):*

J. How well did PGCC prepare you for your studies at the above school?

1. *Very good preparation*
2. *Good preparation*
3. *Fair preparation*
4. *Poor preparation*
5. *Very poor preparation*

K. Do you intend to earn a degree at the above named school?

1. *Yes*
2. *No*
3. *Not sure*

L. Listed below are several college attributes. Please rate PGCC and the college you have most recently attended (if different from PGCC) on each attribute using the following scale:

1 = Very good
2 = Good
3 = Fair
4 = Poor
5 = Very poor

Write the number of your rating in the appropriate space. If you have no basis for opinion, leave the space blank:

ATTRIBUTE	PGCC	OTHER COLLEGE
Teaching faculty	_____	_____
Counseling/advisement	_____	_____
Academic standards	_____	_____
Administrative procedures (Registration, etc.)	_____	_____
Student activities (clubs, events)	_____	_____

PART III - GENERAL

M. Would you recommend PGCC to a person seeking to complete the same program that you studied here?

1. *Yes*
2. *No*
3. *Not sure*

N. Would you have attended PGCC if your specific program had not been available?

1. *Yes*
2. *No*
3. *Not sure*

O. What is the highest level of education that your parents attained in school?

	Mother	Father
1. *Less that high school degree*	____	____
2. *High school graduate*	____	____
3. *Some college*	____	____
4. *AA(two-year) degree*	____	____
5. *BA (four-year) degree*	____	____
6. *Master's degree*	____	____
7. *Professional degree*	____	____
8. *Doctorate*	____	____

P. How was your college education paid for? (Please circle all that apply)

1. *Self*
2. *Parent/guardian*
3. *Employers*
4. *Spouse*
5. *Financial Aid (grant or scholarship)*
6. *Student loan*
7. *Other, please specify* _____

Q. To what extent did your attendance at PGCC help you accomplish the following? (For each item, circle the number that most closely reflects your opinion.)

	A Great Deal		A Fair Amount		Not at All
1. *Improve your writing*	5	4	3	2	1
2. *Expand or enhance your appreciation of art, music, or literature*	5	4	3	2	1
3. *Increase your ability to use mathematics*	5	4	3	2	1
4. *Improve your understanding of science and technology*	5	4	3	2	1
5. *Increase your attentiveness to news and world events*	5	4	3	2	1
6. *Improve your ability to understand the logic and merits of arguments*	5	4	3	2	1
7. *Clarify your educational or career goals*	5	4	3	2	1
8. *Enhance your self confidence*	5	4	3	2	1
9. *Improve your reading comprehension*	5	4	3	2	1
10. *Increase your knowledge of other cultures and periods of history*	5	4	3	2	1
11. *Increase your enjoyment of learning*	5	4	3	2	1

R. In what way could your education at PGCC have been improved?

_____

_____

_____

_____

Please return this completed questionnaire in the prepaid return envelope provided, or mail to the Office of Institutional Research, Prince George's Community College, Largo, MD 20772. *Thank you* for your assistance!

EMPLOYER QUESTIONNAIRE

Maryland Community Colleges

The purpose of this survey is to help improve instructional programs at each community college. It is used by the community colleges and the State Board for Community Colleges to strengthen these programs. We need you, an employer of one of our recent graduates, to tell us how well the graduate is performing on the job and to evaluate how well this graduate was prepared by the community college for your job.

o o

_____
Name of Graduate

_____
Graduate's Job Title

_____
Program of Study at Community College

o o

A. Community college graduates enter a variety of careers. Based upon your knowledge, is the employee's community college program related to the employee's current job?

[ ] Yes, education closely matched job requirements

[ ] In somewhat related field; education covered most job requirements

[ ] No, in different field; education did not cover most entry job requirements

[ ] I don't know

B. Compared to other entering employees, how well do you feel the community college prepared the graduate in the areas listed below?

	Very Good	Good	Fair	Poor	Very Poor	No Opinion
1. Knowledge of specific technical job skills	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2. Familiarity with equipment required by job	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3. Ability to learn on the job	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4. Writing skills	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5. Oral communication skills	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6. Attitude toward work	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7. Ability to solve problems related to job	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

C. Overall, how well prepared is this community college graduate?

Very Good	Good	Fair	Poor	Very Poor	No Opinion
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]

D. Would you hire another graduate of this community college program?

[ ] Yes
[ ] No Why? _____

E. Would you recommend that other employers hire a graduate of this program?

[ ] Yes
[ ] No Why? _____

F. Please specify any additional skills or areas of knowledge that you feel a community college graduate should have in order to qualify for your jobs.

_____

_____

_____

_____

G. Please describe how this community college can better help you with the training of future employees. _____

_____

H. May we contact you for further help?

	Yes	No
1. Serving on Program Advisory Committee?	[ ]	[ ]
2. Placement of student interns?	[ ]	[ ]
3. Job placement of graduates?	[ ]	[ ]

Supervisor completing this survey:

Name: _____

Title: _____

Company/Organization: _____

City/State/Zip Code: _____

THANK YOU!

SURVEY OF CONTINUING EDUCATION STUDENTS
MARYLAND COMMUNITY COLLEGES

Maryland's community colleges would like your assistance in assessing and improving their continuing education courses. Please complete this questionnaire by circling your response for each question and then returning it in the prepaid envelope provided. This form should take less than 10 minutes to complete. All answers will be strictly confidential. Thank you for your help.

o o

(Please make corrections if necessary)
Name _____
Address _____
_____

o o

A. Community college records show that you enrolled in the course identified on the above mailing label. Which statement best describes your attendance in this course?

1. I did not attend any sessions of this course. (GO to question H.)
2. I attended just one session. (If course had only one session, circle response 4 below.)
3. I attended more than one session but not all sessions.
4. I attended all sessions of this course.

B. What was your primary goal in enrolling in this course? (Circle one)

1. Prepare for entry into first career
2. Prepare for entry into different career
3. Update skills for current job
4. Self-enrichment
5. Other (specify) _____

C. To what extent did this course meet your goal? (Circle one)

1. Completely 2. Mostly 3. Fairly well 4. A little 5. Not at all

D. Would you recommend this course to others with the same goal? (Circle one)

1. Yes
2. No
3. Not sure

E. Was this course taken to fulfill licensure or certification requirements? (Circle one)

1. Yes
2. No

(over)

F. Did you satisfactorily complete all the course requirements for this course? (Circle one)

1. Yes
2. No
3. Not applicable/course had no specific requirements

G. Did you earn continuing education units (CEUs) for completing this course? (Circle one)

1. Yes
2. No
3. Not applicable/no CEU associated with course

H. How would you rate the quality of instruction in this course? (Circle one)

1. Very good 2. Good 3. Fair 4. Poor 5. Very poor

I. How would you rate the registration/payment procedures of enrolling in this course? (Circle one)

1. Very good 2. Good 3. Fair 4. Poor 5. Very poor

J. What was your employment status at the time you took this course? (Circle all that apply)

1. Employed full-time (35 or more hours per week)
2. Employed part-time
3. Unemployed and seeking a job
4. Unemployed and not seeking a job
5. Employed and seeking a different job
6. Retired
7. Other (specify) _____

K. What was the highest level of education you had achieved at the time you took this course? (Circle one)

1. Less than high school diploma or GED
2. High school diploma or GED
3. Some college credits/less than a degree or certificate
4. Community college certificate or degree
5. Bachelor's degree
6. Master's or first professional degree
7. Doctorate

L. How could the college improve its continuing education courses to better meet your needs?

_____

_____

_____

THANK YOU for completing the survey! Please return in enclosed envelope.

ERIC Clearinghouse for Junior Colleges DEC 22 1988